FEEDSTUFFS

The Weekly Newspaper for the Feed Industry

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Corporate Complexity Denounced

CHICAGO—If what was said in retrospect by many of the 2,625 American Feed Manufacturers Assn. convention registrants can be taken seriously, the noted lecturer and author, Cameron Hawley, was a spokesman for a significant portion of the feed industry when he said, "Playing the organization game is America's most expensive sport" and "we have substituted organization for leadership."

Though Mr. Hawley lashed out with indictments aimed at concepts which prevail in U.S. corporation management, it appeared that, for the most part, anyway, his listeners—a capacity assembly for the Grand Ballroom in the Conrad Hilton Hotel here—were not offended.

His charges did produce some argumentative comments, however. A representative portion of the after-talk, smoke-filled-room commentators observed that the relationships be-

(Turn to MANAGEMENT, page 7)

CONVENTION COVERAGE

Other stories comprising complete editorial coverage of the American Feed Manufacturers Assn. convention and related events in Chicago this week appear on pages 4, 6, 7, 8 and 10. On-the-scene reports are from the typewriters of George L. Gates, editor; Roger Berglund, managing editor, and Fred E. Tunks, news editor.

Broiler Prices Up, But Trade May Revise Contracts

By ROBERT H. BROWN
Feedstuffs Special Writer

ATLANTA, GA.—The broiler market continues to rebound from low prices caused by overproduction, and there is a definite feeling that a bottom may have been reached. However, there is also a general feeling that the business isn't going to be good for the next 90 days.

Meanwhile, feed people with grow-

(Turn to BROILERS, page 76)

Nutrena Appoints Regional Managers

MINNEAPOLIS—The appointment of four regional managers and the realignment of some headquarters staff departments were announced this week by James C. North, president of Nutrena Mills, Inc. The changes will become effective June 1.

The northern region, with headquarters at Minneapolis, will be headed by Robert Mason, presently products and service manager of the headquarters marketing staff.

The central region, headquartered

(Turn to NUTRENA, page 73)

Need for Attention to Changing Distribution Patterns Stressed

CHICAGO—The need for constant attention to changing feed distribution patterns and the industry's role in this distribution were strongly emphasized in a panel discussion at the American Feed Manufacturers Assn. convention May 10.

The discussion served to underline the fact that there is no "one way" to certain success in maintaining one's position in the industry and that those who intend to be listed in "Who's Left" in the years ahead must make their marketing plans today.

At the conclusion, Don Butler, the panel moderator, observed that "the method of distribution that you personally employ depends on your marketing strategy. It should be recognized that it is not only difficult, but impractical to design your marketing strategy to cover 100% of the market.

"Forward thinking companies to-

(Turn to DISTRIBUTION, page 73)

McNeal Reelected; Herman Jensen Is Vice Chairman

CHICAGO—Dean McNeal, executive vice president and member of the board of directors of the Pillsbury Co., Minneapolis, was reelected chairman of the board of directors of the American Feed Manufacturers Assn. at the 53rd annual AFMA convention here.

Elected vice chairman was Herman (Jack) Jensen, vice president and general manager, feed division, John Morrell & Co., Estherville, Iowa. W. E. Glennon was reelected executive

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Allied, Anheuser-Busch Merger Talks Dropped

CHICAGO—The preliminary discussions of a possible merger of Allied Mills, Inc., Chicago, with Anheuser-Busch, Inc., St. Louis, have been discontinued.

A report from St. Louis about a month ago had indicated that "exploratory" discussions were taking place.

"After a study of the entire situation, it has been mutually agreed that a merger would be of no particular advantage to either company,

(Turn to ALLIED MILLS, page 77)

2,625 REGISTER FOR AFMA EVENT

CHICAGO—A total of 2,625 delegates registered for the 53rd annual convention of American Feed Manufacturers Assn., May 8-10 in Chicago.

So stated W. E. Glennon, AFMA president, at the close of the meeting. He also indicated that hundreds of additional people were present in Chicago—wives and other non-registered persons—bringing the total to nearly 3,500 persons who were present by reason of the AFMA convention and National Feed Show.

Plans are now underway for the 54th annual convention of AFMA, which will be held at the Conrad Hilton Hotel in Chicago, May 10-12, 1962.

AFMA Seeks Ways To Help Attain Goals of Industry

CHICAGO—An objective of searching intelligently for better ways to help the feed industry reach its goals was ordained for the American Feed Manufacturers Assn. by its president, W. E. Glennon, in a convention address here this week.

Mr. Glennon said it is imperative for the AFMA staff to inquire whether there may be new purposes and broader responsibilities that the association should assume if it is to be of maximum value to its membership and the industry.

"Only by taking time occasionally to stand aside to see our strengths and shortcomings can we clearly see where we want to go and to determine the proper steps to get there," he declared. "AFMA is the one best means by which conscientious and dedicated men of the feed industry can work together to build a bigger,

(Turn to GOALS, page 77)

Effects of Grain Plan Predicted

CHICAGO—An industry economist stepped confidently out on a substantially supported limb here at the American Feed Manufacturers Assn. convention and placed on record a list of feedstuffs, livestock and poultry price predictions which feed men tucked away for immediate perusal and future reference.

Dr. W. Lyle Fitzgerald, manager, economic research, The Quaker Oats Co., and chairman, AFMA market research committee, forecast the fol-

(Turn to PREDICTIONS, page 77)

College Spokesman Says Feeder's Needs Must Be Satisfied

CHICAGO—An exigency of the feed industry is the establishment of means for relaying quickly the specific demands of farmers all the way to top management, the dean of the University of Missouri's extension division declared here this week at the American Feed Manufacturers Assn. convention.

In an address which stressed the interdependence among the feed industry, the producer and the agricul-

(Turn to COLLEGE, page 8)

FDA Clarification Of Drug-Concentrate Regulation Issued

CHICAGO—The Food and Drug Administration has issued a clarification regarding the obligations of a feed mixer when using concentrates containing the coccidiostats amprolium and zoalene.

Details of the clarification were announced this week in an American Feed Manufacturers Assn. bulletin and also discussed at an open meeting on control topics at the AFMA convention in Chicago.

The clarification sets levels of the two drugs which may be used in concentrates without the need for FDA

(Turn to DRUGS, page 4)

Scientist Advances Nutritional Concept For 'Ideal' Diet

CHICAGO—An "ideal" diet for both man and animal—one that can be scientifically tailored to the individual for optimum growth and health—may be within striking distance through a laboratory-tested nutritional concept proposed by a scientist for Chas. Pfizer & Co., Inc., Brooklyn, N.Y.

This was indicated in discussions at Pfizer's annual research conference in Chicago.

Dr. Charles I. Jarowski, director of pharmaceutical research and de-

(Turn to SCIENTIST, page 6)

FEEDSTUFFS *Features This Week*

FEED HANDLING AND DELIVERY—A New York mill owner says that improved handling and distribution hold the key to the future for independents. **Page 18.**

OUTSIDE SELLING—An Alabama firm has grown from an under-the-hat operation because of outside selling. **Page 26.**

CARCASS QUALITY—Feeding pigs with emphasis on production of quality carcasses is discussed on **page 34.**

FEED TECHNOLOGY—This article tells about the undergraduate curriculum in feed technology at Kansas State University. **Page 42.**

SELENIUM—Transition of selenium from a villainous role to a more benign one is described on **page 46.**

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Top of the Hopper

FEED CONVENTIONS, such as the just-ended American Feed Manufacturers Assn.'s annual gathering, have somewhat of a sameness about them from year to year. This feeling is enhanced particularly, we suppose, when you find yourself sleeping in the same bed you had a year ago and the Hilton still hasn't fixed the radio next to it. However, it's no great inconvenience, and the familiar aspects of the big doings give one a fine sense of continuity of effort, of massive power and importance of the feed industry and, not least of all, of the competence and determination of the people who make up the industry.

Sameness is not a negative quality unless it also connotes immobility, which the feed industry's big show and convention certainly do not.

The many things, too, that were different this year contributed to a worthwhile experience for those who attended. Among the standouts in short-term recollection which we feel will be in the long-term memories, too, is Dr. W. Lyle Fitzgerald's eloquent summary of his farm bill commentary: "In a world where so many people exist in the twilight zone between starvation and just enough to barely sustain life, we must question the spiritual and ethical concepts involved in subsidizing a decrease in food output."

MANY OTHER PORTIONS of the program, of course, will be recalled many times, too. Prominent among them, we suspect, will be Author Cameron Hawley's scathing observations on "playing the management game" and business fads which had feed men nudging their neighbors in "it sounds like somebody we know" gestures.

Many of the exhibitors at the show have orders for their wares to bring them happy recollections of the event. As one fellow expressed it: "This is the convention where the prospects have the money as well as the urge." Some of the exhibitors, however, still find the cost of getting set up at the Hilton hard to take.

PROBABLY OF MOST IMPORTANCE to feed men at the convention, however, are the impressions they gained of what's new in the business, gathered more from their cousins-in-commerce than possibly from other sources.

A year ago, talk of feed business sales and mergers (although more just rumored than actually in the works) was prevalent. This year some of the convention conversations seemed to be more introspective—on both an industry and an individual firm basis. Comments seemed to reveal a sort of "soul searching" on just how the industry and individuals will fit into and adjust to the fast-paced changes in agricultural production, food marketing, and the feed industry itself.

Much of the conversation seemed to reflect the generally tougher competitive situation in the industry and the poultry and related fields.

As one feed executive put it, "Well, our business volume and tonnage are up, but it's hard to earn more profit on it."

What to do about it? Obviously enough, it's easier said than done. One sales official said, "There are plenty of obstacles, but our boss isn't accepting any of our excuses."

AS AFMA PRESIDENT ED GLENNON mentioned in his talk on "Roadmaps Are Not Free" (a talk on association activities and the group's helping to provide industry roadmaps for members), there is increasing involvement on the part of feed manufacturers in food production and processing and

(Turn to TOP OF THE HOPPER, page 73)

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

Starter feeds for chicks, poults and pigs are providing a large portion of the volume for feed manufacturers this week. Business was varied with some regions reporting business off slightly and others indicating that it compared well with last week.

Torrential rains in the south central region slowed the movement of trucks. Farmers in this area reported some crop damage from flooding.

Broiler feed continued to move well in the Southeast due to the large numbers on feed. Prices for broilers increased 1½¢ during the week; however, it was reported that even good growers still are losing money at the current prices.

This week's wholesale feedstuff price index of 87.8 is 1.8 points below last week but well above the 74.6 where it stood the corresponding week a year ago.

The U.S. Department of Agriculture says that the feed-grain index was 64.0 for the week, unchanged from last week but 3.3 points under a year ago.

Based on Chicago prices, the hog-corn ratio was up to 14.9 from 14.7 a week earlier. This compared with 13.2 a year before. (Major feed market review and ingredient quotations on pages 74-76.)

Northwest

Feed business in the Northwest this week was mostly unchanged. Some manufacturers reported business up slightly or down slightly with volume generally comparing well with the previous week. One manufacturer said business was "steady—full steam ahead."

Turkey feed and chick starters along with hog feeds were making up a large portion of the feed volume for the week. There was some strength noted yet in dairy feeds in this area where a cool spring has held pastures back. But, warm weather arrived this week and pastures began to perk up, heralding a decline in dairy feed sales.

Manufacturers indicated that feed prices would be steady to off somewhat, mainly due to the drop in soybean meal price.

Southwest

Feed manufacturers generally found it more difficult this week to operate on a full five-day basis.

Some large units operated only four days and the area average was no better than four to five days and possibly just a shade off from the preceding week.

The relatively high level of formula feed prices as compared to the end products was a topic more frequently heard. Some mixers expressed the view that the high prices on proteins would soon have a detrimental effect on mixed feed volume. In spite of this starter feeds for turkeys, chicks and pigs were the best movers. Some mills reported that shipments of turkey grower rations were picking up and in a few weeks should be at a high level.

Contract egg operations reported sales of laying rations at a good rate and the same steady pace is true of broiler rations.

Cattle and dairy feed business has slowed considerably and while pig and hog feed sales have held up well it is felt that promotions have helped materially in maintaining the volume.

Northeast

The sharp drop in soybean oil meal sent formula feed consumers to the sidelines to await further developments. Mixers, in turn, trimmed their running time to cope with the sudden drop in demand.

Dairy feed sales continued to hold up, with increasing emphasis on more complete feeds—a trend that is likely to continue for a couple of more months, especially in view of the higher transportation costs caused by the scarcity of oats and the relative shortage of corn in the East.

Continued rains and prolonged cold weather in the East have delayed planting of oats and prospects are for a short acreage this year, further aggravating supplies.

The 14% protein feed that mixers have been offering to supplement the diet of grass-fed cows has been off to a slow start but they hope it will gather momentum soon.

Egg mashes held up well, and although egg prices eased fractionally they still are at profitable levels for growers.

Broiler feeds, however, were slow. Broiler prices were about unchanged, but levels are a couple of cents below a year ago and percentage-wise the drop is quite large.

Running time of formula feed manufacturers was reduced to 36 hours last week from 40 hours in the preceding period.

Southeast

All types of feed business in the Southeast are reported as being about unchanged with poultry feed business as being very good due to the greater number of broilers on feed. Formula feeds for cattle continue on the slow side.

Good pastures and surplus of milk are keeping dairymen from pushing their herds for more production of milk. The poultry situation is showing signs of improving as broiler prices advanced 1½¢ lb. this week making the price 14½¢ lb. f.o.b. the farm. Good growers still operate at a loss at the present prices. Some sections of Florida are having a dry spell and pastures are drying up. This should stimulate a better demand for dairy and cattle feeds.

Many cottonseed oil mills are completing their crushing operations for this season and the few remaining operating mills for June and July are only offering limited quantities of cottonseed meal and hulls as they believe prices will advance along with soybean meal. Many feed manufacturers have increased the usage of corn in their poultry feeds in the place of soybean meal causing prices to advance 2¢ per bushel this week.

Central States

In the face of recent easiness in eggs and no definite evidence as yet of any firming tendency in the broiler markets, poultry feed sales volume seems to be holding up rather well. This comes in spite of a rather general belief that there has been some liquidation of flocks.

On the other hand, the situation in both hogs and cattle remains much better than in the poultry lines inso-

(Turn to MARKETS, page 79)

Peter Hand

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To help you produce better feeds, Peter Hand Research Farm conducts thousands of feeding experiments on poultry, swine and cattle. Latest scientific developments —vitamins, antibiotics and additives—are evaluated.

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Association Honors 3 College Scientists, Broadcaster, Magazine

CHICAGO—Three outstanding college scientists, a radio and TV farm director and a national farm magazine were honored this week at the 53rd annual convention of the American Feed Manufacturers Assn.

The three researchers who received plaques commemorating AFMA awards of $1,000 each as "top scientists of the year," are: Dr. F. Howard Kratzer, professor of poultry husbandry, University of California; Dr. W. A. Hardison, associate professor of dairy husbandry, Virginia Polytechnic Institute, and Dr. B. Connor Johnson, professor of animal biochemistry, University of Illinois. Their selection for the awards by their respective scientific organizations had been announced earlier.

Herb Plambeck, farm director for WHO radio and TV, Des Moines, was selected as the 1960 national winner of the animal agriculture award for farm broadcasters sponsored by AFMA.

Carroll P. Streeter, editor of Farm Journal, accepted, in behalf of the publication, AFMA's animal agriculture award for farm magazines.

Mr. Plambeck, Mr. Streeter and Farm Journal's livestock editor, John A. Rohlf, were cited by R. L. Kathe, director of public relations for AFMA.

Dr. W. W. Cravens, immediate past chairman of the AFMA Nutrition Council and director of feed research, McMillen feed division, Central Soya, Decatur, Ind., presented plaques to the three award winning scientists, Dr. Kratzer, Dr. Hardison and Dr. Johnson.

Dr. Kratzer has devoted nearly 20 years to nutrition research at the University of California and is now searching the possibility of a new, unidentified vitamin.

Dr. Hardison's outstanding research in dairy nutrition was studies of copper deficiencies, metabolism in calves, rumen inoculation and frequencies of feeding heifers.

Dr. Johnson's research on vitamin deficiencies in calves, effects of antibiotics on vitamins, and the role of antioxidants and other chemical compounds contributed to his selection as one of the 1960 AFMA $1,000 award winners. Among his work was the infusion of radioactive acetate in sheep. The collection of radioactive CO_2 from the animal helped to determine what part of the animal's energy comes from acetate.

Annual awards in the fields of poultry science, dairy research and in animal production were instituted by AFMA in 1948. Since that time, AFMA has presented 39 such citations.

NEW AFMA DIRECTORS—Newly elected members to the board of directors of the American Feed Manufacturers Assn. are shown above, during the association's 53rd annual convention in Chicago, May 8-10. Standing, left to right: Dr. Paul E. Newman, Beacon Milling Co.; Dr. Walter A. Glista, Withmore Feeds, Inc.; Edward E. Woolman, Hales & Hunter Co.; Henry C. Tilford, Jr., Dixie Grain Co., and Dr. C. K. Laurent, Marbut Milling Co. Seated, left to right: Harry C. Johnson, Montana Flour Mills Co.; G. A. Ensminger, Albers Milling Co.; Steele Wright, Texas Farm Products Co., and Dwight Dannen, Dannen Mills, Inc. Dr. J. L. Krider, Central Soya, also newly-elected to the board, is in Europe on business, and was unable to attend the meeting.

DRUGS

(Continued from page 1)

clearance on the part of the local mixer.

The action announced this week covered one level of drug in the finished feed — 0.0125%. Questions were raised at the Chicago meeting regarding a higher finished feed level and other than the announced maximums in concentrates, but any further announcements on these questions apparently awaited additional conferences.

In answer to a question about the drugs and concentrates when an Antibiotic Form 10 is involved, FDA officials said that they would shortly have the antibiotic regulations amended to cover this situation. Other regulations were involved in the clarification statement announced this week.

The conferences between FDA and the feed industry liaison committee on the concentrate question had involved amprolium and zoalene specifically—two substances which come under food additive regulations.

Lee Boyd of the AFMA explained that other products where problems in concentrate use and FDA clearance are involved may be considered in a similar way if persons concerned confer with FDA and submit data. It was noted that the recent action involves no policy change, but it was explained that data may be developed to permit similar treatment of other drugs. Each case will be considered on an individual basis.

Regarding the two coccidiostats currently involved, a bulletin issued by AFMA said FDA had ruled officially that a concentrate containing a maximum of 0.05% of amprolium may safely be used to produce finished feed containing not more than 0.0125% of this drug without imposing the requirement for FDA clearance on local or custom mixers using such concentrate.

FDA also ruled that a concentrate containing not more than 0.0375% zoalene may be used safely by feed mixers to produce a finished feed containing this drug at a level of 0.0125% without the need for FDA clearance of the local or custom mixer.

AFMA noted that these decisions do not represent a change in policy of FDA with respect to the need for clearances for medicated feeds containing new drugs. "When control over the finished feed and mixing is necessary to assure safety, these controls will be required," the AFMA bulletin stated.

FDA officials explained in conferences with a feed industry liaison committee representing AFMA and the Grain & Feed Dealers National Assn. that all feed manufacturers and mixers incorporating amprolium or zoalene directly into any feed or using a feed premix or concentrate containing higher amounts of the two drugs than stated in the FDA rulings must obtain FDA clearance for the use of these products.

AFMA's bulletin also said: "Many manufacturers of concentrates have had FDA clearance for their concentrates which included the proviso that users of these concentrates must obtain FDA clearance to use them in the production of finished feeds. If these concentrates contain not more than 0.05% amprolium, or 0.0375% zoalene, this requirement for FDA clearance of mixers will no longer be imposed.

"It is our understanding that each concentrate manufacturer whose FDA clearances contain this proviso will have to individually submit a letter to FDA requesting that this requirement be stricken from their clearance in view of this recent policy clarification."

In the discussion at the Chicago meeting, some persons raised questions about concentrate use when a higher level of drug is authorized in the finished feed. FDA officials said, however, that at this point, no level other than 0.0125% in the finished feed and no concentrate levels other than those mentioned above had been considered. At this point there would have to be supplemental new drug applications for other levels. The top drug level in the final dosage form was stated to be 0.0125% and the amount of concentrate involved would be no less than 500 lb per ton in the case of amprolium. For zoalene, the concentrate per ton would be 666 lb.

$250,000 Fire

EASTON, MD. — A quarter of a million dollar fire wiped out grain storage facilities of the J. McKenney Willis Co. here recently. This firm is the contractor for some 16 million broilers annually, one-tenth of Delmarva's production.

Company officials conducted salvaging operations in an effort to save some of the 50,000 bu. of grain stored in the building.

AFMA Market Seminar Theme Announced

CHICAGO — "Sell or Surrender" has been adopted as the theme for the third annual marketing seminar of the American Feed Manufacturers Assn. to be held in the Morrison Hotel, Chicago, Sept. 20-21. The subject was announced by Robert D. Emmons, chairman of the AFMA Sales Executives Council and sales manager of Wirthmore Feeds, Inc., during the 53rd AFMA convention and seventh National Feed Show in the Conrad Hilton Hotel, May 8-10.

The council adopted in entirety the seminar recommendations of the program committee, headed by E. C. Fuller, executive vice president of Nutrena Mills, Minneapolis. Mr. Fuller's committee urged all sales managers of AFMA member companies to attend the seminar. The program, said Mr. Fuller, will focus on the manpower training and supervisory problems involved in serving a rapidly changing agri-business market, with special emphasis on how sales managers can organize themselves personally to meet the challenges ahead.

Members of the program committee, in addition to Mr. Fuller, include: Marshall Backus, Cooperative G.L.F. Exchange, Ithaca, N.Y.; Paul Cory, Moorman Mfg. Co., Quincy, Ill.; E. P. MacBryde, Jackson Grain Co., Tampa, Fla.; Keith Morrison, Dixie Mills, St. Louis, Mo., and Dale Smith, Western Farmers Assn., Seattle, Wash.

Egg Prices Increase Sharply; Broilers Up

WASHINGTON—Prices in the nation's egg markets were sharply higher during the week ended May 10. Broilers were also firm to higher.

Eggs ranged from ½ to 3½¢ higher especially in the Northeast. The higher prices were attributed to heavy government purchases of dried eggs that made breaking activity very aggressive. Northeast prices were boosted by curtailed shipments of eggs from the West.

Broiler prices in the South in the week ending May 10 were mostly steady at 13¢ lb. to up ½¢ in North Carolina, according to the U.S. Department of Agriculture. There were reports later in the week that broilers were bringing 14½¢ in some Southern areas.

For Swine and Chickens

Broadened Uses of Furazolidone Announced

CHICAGO—Broadened uses of furazolidone (nf-180) in swine and chicken feeds have been announced by Hess & Clark, Ashland, Ohio.

The company announced this week at a press conference in Chicago that new claims for the product have been permitted by the Food and Drug Administration to become effective.

Hess & Clark announced:

● Now permitted is a new claim for the feeding of furazolidone to growing swine to prevent enteritis and scours and to improve feed efficiency in swine. The new claim, it was explained, will be part of a complete program for swine which also includes the previously cleared use of the drug in sow feeds.

● A broadened use of nf-180 in feeds for chickens for reduction of condemnations due to CRD-air sac complex associated with vaccination stress has been allowed to become effective by FDA.

Official announcement of the new claims and uses was made in Ashland by Dr. Paul D. Harwood, vice president and director of research, Hess & Clark, Division of Richardson-Merrell, Inc.

Also, a press conference was held here during the American Feed Manufacturers Assn. convention to explain the new developments. Dr. Aaron L. Andrews, president and general manager of the firm, and Dr. Grover Cloyd, director of field research, outlined the FDA and research background on the uses.

Swine Use

"Furazolidone has been proven effective as an aid in the prevention of bacterial enteritis (necrotic enteritis, necro, black scours) and vibrionic (bloody) dysentery," Dr. Harwood said. "It is also useful in maintaining weight gains and improving feed efficiency in both baby pigs and growing swine."

Success of the drug in preventing bacterial enteritis and vibrionic dysentery was reported by Hess & Clark after extensive research at several leading midwestern universities. On the basis of this work, officials said, FDA has permitted a new claim

(Turn to FURAZOLIDONE, page 79)

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New Nutrition and Veterinary Research Findings Outlined

CHICAGO — Major new developments in livestock and poultry nutrition and veterinary medicine were reviewed this week at the ninth annual research conference sponsored by the agricultural research center of Chas. Pfizer & Co., Inc.

More than 300 nutritionists, feed industry executives and others heard reports on such things as controlled feeding and calcium and phosphorus levels for layers; zinc, copper and other aspects of mineral nutrition of swine; vitamin A supplementation of cattle rations and the vitamin A-nitrate problem; bloat control in dairy cattle; poultry disease problems involved in feedstuffs carrying pathogens; and new developments in antibiotic potentiation, including work with swine as well as poultry.

The conference was held May 7 at the Conrad-Hilton Hotel in Chicago, preceding the American Feed Manufacturers Assn. convention. Presenting recent data and comments were six leading university researchers and three Pfizer scientists.

Summaries of some of the highlights of the extensive presentations follow:

POULTRY NUTRITION — Dr. E. P. Singsen of the University of Connecticut covered several aspects of current research in poultry nutrition, including controlled feeding of layers and calcium and phosphorus for the laying hen.

Controlled Feeding — Dr. Singsen told of Connecticut work on the controlled feeding of heavy broiler-type breeding hens which normally consume excess energy when fed high energy diets. Connecticut workers have been trying to get rid of some of the work involved in controlled feeding, including a daily weighing of feed and a bi-weekly or monthly sampling of body weight. They have now developed and successfully tested a simplified controlled feeding system in which birds are weighed only once, about two weeks after reaching peak egg production. Subsequent changes in daily feed allowance are based on egg production and temperature changes only.

Work on "skip-a-day" feeding, with feeding skipped one in five days, was described. Results have included better hatchability. It is not known whether this system would apply to high egg production birds.

Vitamin A: Described as "very interesting" were two aspects of current vitamin A research—"effect of high levels of vitamin A on remission of symptoms of coccidiosis and developing evidence that carotenes are of substantially less value as sources of vitamin A than the unitage presently calculated for them would indicate."

Calcium and Phosphorus: Dr. Singsen explained the need for and reviewed research on the currently higher levels of calcium in laying feeds. He said that in low energy rations or rations for broiler-type breeders, calcium levels might be 2.25 to 2.75% in moderate temperatures and 2.75 to 3.00% in high temperatures. In high energy rations or rations for high producing birds, calcium levels should be 3.0 to 3.5% under conditions of moderate temperatures and 3.5 to 4.0% when high temperatures are expected.

Some recent reports have indicated that phosphorus levels in laying diets could be lower than previously thought, but it is noted that some studies have been short term. Dr. Singsen went on to tell of Connecticut work in this field.

It is apparent, he noted, that not all current researchers agree that maximum egg production can be sustained over a long period on low levels of total phosphorus coming primarily from plant ingredients. He said it is his opinion that total phosphorus in high energy rations should be maintained at not less than 0.60% and that of this amount, not less than 0.3 to 0.4% should be from readily available phosphate sources.

SWINE NUTRITION — Mineral nutrition was one of the topics receiving attention in a paper by Dr. R. W. Luecke, Michigan State University, and in this area he gave special attention to zinc, copper and injectable iron.

One interesting aspect of zinc metabolism and its relationship to parakeratosis, said Dr. Luecke, is that supplemental copper, without supplemental zinc, can sometimes prevent the disease.

Workers in England have been obtaining growth responses to supplemental copper at levels of 250 ppm, while some workers in the U.S. have encountered toxicity at this level. One reason for the conflicting results may be higher levels of protein in some rations, which exert a significant influence in reducing copper toxicity. Another factor of importance would appear to be the level of zinc; the danger of copper toxicity at levels of 250 ppm may be avoided if zinc content is high enough.

Dr. Luecke said that soluble copper salts, being bacteriostatic, may exert their growth-promoting effects much in the same manner as antibiotics, but experience in this country indicates that growth promotion is "erratic."

Michigan work with injectable iron preparations, he continued, indicates that the iron polysaccharide complexes in general have given the more desirable hematologic response, with the iron dextran being the most effective.

With respect to dosage level, it was found that a single injection of 150 mg. is more effective than a similar 100 mg. dose.

BEEF CATTLE NUTRITION — Among several aspects of beef cattle feeding research covered by Dr. W. H. Hale of the University of Arizona

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SCIENTIST

(Continued from page 1)

velopment for the firm, told of nutritional studies with rats that supported his concept.

The Jarowski theory—in which a number of scientists attending the conference expressed considerable interest—states that for optimum protein efficiency, the amount of each essential amino acid eaten daily by any species should correspond proportionately to the amount found in the blood plasma in that species (the fasting blood plasma profile).

The title of Dr. Jarowski's talk before the nutritionists and other feed men was "The Relationship of Fasting Plasma Amino Acid Levels to Protein Efficiency." (The data in this paper will be found in the published proceedings of the conference.)

"Tremendous Impact" Possible

W. M. Reynolds, manager of Pfizer's agricultural research center, said Dr. Jarowski had been asked to report on his work on amino acid requirements with rats because it is felt that this work "may someday have a tremendous impact upon our knowledge in the field of amino acids for animal nutrition and the formulation of commercial feeds for proper protein intake. Though economics and ingredient availability still, and will for years to come, dictate formulation principles, we feel that the work reported here may someday play an important part in establishing protein and amino acid formulation principles. And, it is the hope, and one of the goals, of Pfizer to continue work in this area so that pioneering work such as this can be applied to the poultry and livestock nutrition of the future."

The validity of Dr. Jarowski's theory, it was noted, was verified experimentally in collaborative studies under the direction of Dr. Milton Winitz, National Cancer Institute, and in association with Dr. Arthur V. Puccini of Pfizer and M. Clyde Otey, at the National Institutes of Health.

What these scientists demonstrated, said Dr. Jarowski, was that the dietary need for the building blocks of life could be achieved by using the individual himself as the yardstick.

Growth Rates Compared

In this work, the scientific team designed a study to compare the growth rate of a group of rats fed a synthetic diet No. 116 with the growth rate of a second group subsisting on a comparable diet with the exception that the level of essential amino acids would be varied according to the Jarowski concept.

The control diet 116 itself was the result of six years of scientific labor, and represented the most efficient chemically-defined diet yet devised. It was composed of 18 crystalline amino acids, 16 vitamins, pertinent salts, glucose and ethyl linoeate (source of essential fat). Many amino acid corrections were made in the theoretically "improved" diet, explained Dr. Jarowski. Among them the limiting amino acid lysine was increased over the control diet 116. In addition threonine and tryptophan concentrations were also increased in the test diet.

Within a month, it was noted, the diet developed by the Jarowski concept had bettered the growth response in the control group of rats by 15%.

Greater Nitrogen Efficiency

Out of this initial work, reported Dr. Jarowski, an even better diet was formulated which stimulated a growth response identical to diet 116, but possessing a 20% greater nitrogen efficiency. This was possible, he said, because certain of the essential amino acids were present in diet 116 in excess of the dietary need, and their levels could be markedly lowered without serious effects.

Dr. Jarowski's conclusions from these studies to date are that the amount of each essential amino acid found in the blood plasma in a species (the fasting blood plasma profile) appears to be a guide to predicting the relative protein efficiency of various diets.

"It would seem," he continued, "that the fasting plasma amino acid levels represent a dynamic condition which can be used as a guide to formulate the 'ideal' protein required for optimum nutrition."

Theoretical Formula

In summarizing his paper, Dr. Jarowski said: "Fasting rat plasma amino acid levels were used in the development of the following theoretical formula:

"'Ideal' Minimum Daily Requirement=Plasma Volume (L/Kgm.) X Body Weight (Kgm.) X Amino Acid Concentration (mM/L) X 222.

"By the use of this formula, theoretical diets were developed, which enable one to predict the protein efficiency of various diets reported in the literature."

Dr. Jarowski believes that future implications of the initial work could be far-reaching. Through simple supplementation of amino acids, the individual could anticipate optimum healthful development, he reports. Elimination of many nutritional diseases, metabolic dysfunctions and infectious diseases may also be possible.

In other applications, "ideal" diets for animals may be possible that will assure optimum growth and development, said Dr. Jarowski.

Antibiotic Supplement For Pigs Announced

NEW YORK — A new antibiotic supplement for swine feeds called "Taomyxin" has been introduced by the agricultural division of Chas. Pfizer & Co., Inc. The new product was recently cleared under the food additives amendment of the food and drug law.

Results from several years of intensive research show that the new additive increases daily gains an average of 7% and improves feed conversion by 4%, a Pfizer spokesman said.

(In addition to being announced at company headquarters here this week, work with Taomyxin was discussed at the Pfizer Research Conference in Chicago.)

"Taomyxin combines the medium spectrum range of oleandomycin with the broad spectrum activity of oxytetracycline—a combination found to produce greater gains, more efficiently, in swine than either antibiotic used alone," according to Pfizer scientists who told of tests under practical farm conditions with growing-finishing swine. "Well documented results show that the new antibiotic supplement consistently outperforms other individually used antibiotics and their combinations, on both an experimental and a commercial basis."

The antibiotic levels are 2 gm. of

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PFIZER CONFERENCE—Some of the speakers at the annual Pfizer Nutrition Conference in Chicago are pictured here. In the first photo, discussing research material, are, left to right, Dr. R. W. Luecke, Michigan State University; W. M. Reynolds, manager, Pfizer agricultural research center, and Dr. E. P. Singsen, University of Connecticut. In the second picture are H. O. Dermody, assistant general manager of Pfizer's agricultural sales division; Dr. C. K. Whitehair, Michigan State, and Dr. B. S. Pomeroy, University of Minnesota.

MANAGEMENT

(Continued from page 1)

tween management and labor are not what they were back in the days when many of today's large corporations were founded and directed by one man or a handful of men. Labor is in a much stronger position now, they argued, and the "step lightly" approach which management has had to assume in dealings with labor has spread within management itself.

"Complex Organization"

"In too many cases," Mr. Hawley declared, "we have accomplished nothing more than to create a big, complex and expensive organization to do what a single competent individual could easily do on his own. Decisions that were once made quickly and soundly by one man, now involve dozens of men in a rigamarole that drags on for days."

This critique was just one of the jabs of his multi-pronged attack. It was sharply critical, to say the least, but when he finished his appraisal of the current corporate scene, his audience stood, returned approving applause and formed a line for the rendering of respectful handshakes.

And the effect of the one-time business executive's pronouncement did not end there in the lecture hall. For hours and days afterward, convention delegates revealed to each other in reception rooms, in corridors, at lunch counters, in home-bound planes and trains: "He said just what I've thought for a long time. I'm going to get his books and read them." (Mr. Hawley is the author of the best-sellers, "Executive Suite," "Cash McCall" and "Lincoln Lords.")

Mr. Hawley insisted that he was not a missionary. Instead, he said, he wanted to inspire men to think. He did this, to be sure, and it seems that he did a little book selling, too.

"Inefficient, Expensive"

Mr. Hawley charged, "We cry that we are undersold by foreign manufacturers. Our inability to compete in world markets today is much less a matter of higher labor costs than it is of the excessive load of overhead with which so many American corporations have burdened themselves. . . . We have built up here in the U.S. the most fantastically complicated, grossly inefficient and ridiculously expensive system of corporate control to be found anywhere on earth."

This critical commentary came from a background of extensive world travel and a combination of creative talent and 25 years experience in business. Mr. Hawley is the author of many magazine articles, radio and TV plays and motion picture scripts, as well as novels, and he has filled a long succession of executive posts in merchandising, financial analysis, scientific research, advertising and sales promotion.

"When Europeans want to expand industry, they build factories," Mr. Hawley related. "In the U.S., we build new office buildings."

He said foreign business has found that in a competitive market it cannot afford "the costly diversion of the management game." And he added that he could not understand "how we got to the point of believing that our businesses should be run like socialistic communes."

"Soft, Flabby Fat"

Mr. Hawley further charged that corporations have "poured millions and millions of dollars down thousands of ratholes, setting up this department or that department because it looks good on the organization chart, starting this activity or that activity because everyone else is doing it, following every new fad and fancy, piling overhead on overhead, smothering the vitality of the corporate body with an ever thickening accumulation of soft, flabby fat.

"Too many corporation executives see themselves as administrators of a system rather than as true leaders. They feel themselves prohibited from taking action until a ponderous organization has labored mightily to produce facts that they already know —or should know—and even then cannot act until they have consulted with everyone in sight, usually to no other purpose than to keep their good will. Initiative and speed of action are constantly being sacrificed on the altar of the cult practice of 'group management.'"

"Over-Organization"

In Mr. Hawley's opinion, U.S. business has substituted organization for leadership. "We can't train leaders by making good committee members of them," he said.

He called "over-organization" the most widespread fault in American business and he recommended "more concentration of management responsibility in the hands of men who know the business well enough so that they can make decisions on their own, with the initiative and energy to move ahead without being prodded by an organization, the courage to avoid weakening compromises and the soundness of judgment that commands the respect of those who must take their direction.

"Leadership qualities are rare," he said. "They usually come in individualistic packages. But we don't hire that kind." American business, he charged, hires the "complacent guy," puts him through a training course so he'll think like others in the organization. The concept of "one big happy family," he said, makes it certain that the new man "won't upset anything."

MANAGER NAMED

GRUNDY CENTER, IOWA — Ernest Storey, former manager of the Morrison Cooperative Elevator Co., has accepted a position as local manager for the Bolson Feed Plant at Reinbeck. The Bolson company has plans for extensive expansion during the year.

Feed Men, Control Officials Recommend Selection of Group to Continue Label Study

CHICAGO — Feed manufacturers and state feed control officials recommended here at a special session of the American Feed Manufacturers Assn. convention that a group be selected to continue a study of what can and should be done about making feed labeling more flexible and more useful.

This action followed a review of the results of a survey conducted by John W. Kuzmeski, Massachusetts feed control official, among state control officials and representatives of the feed industry. (A summary of the survey's findings appeared on page 4 of the April 29 issue of Feedstuffs.) Replies to the questionnaires sent out by Mr. Kuzmeski indicated that most respondents believe further study of revision proposals would result in improved label information.

The open meeting conducted by the AFMA feed control relations committee and the American Association of Feed Control Officials states relations committee was moderated by Leroy Schilt of Ralston Purina Co., St. Louis, chairman of the AFMA group, and Parks A. Yeats, Oklahoma City, chairman of the AAFCO committee.

In addition to a discussion of the survey's findings, questions concerning more specific aspects of feed control were raised. Some of these questions and the answers and comments they produced follow:

Should control officials accept feed registrations and labels "under protest" until the present supply of labels which do not comply is used up? From an industry standpoint, decisions made at the October meeting (annual AAFCO convention in Washington) are too late to be incorporated in the following year's labels.

Mr. Schilt said control officials have been fair in permitting feed manufacturers to use up their existing labels when changes have been made in control stipulations and he suggested that feed men should expect such permission only when the changes made are minor.

It was noted during the discussion that the cooperation extended by control officials in this particular matter had been abused in some instances, and it was generally agreed by feed industry representatives that such exploitation should be eliminated.

AFMA committee spokesmen suggested that any problems of compliance might be eased if AAFCO made its decisions on feed registration and labeling changes earlier in the year, perhaps in May, so as to give feed men more time between the announcement of these changes and their effective date.

Is it practical and permissible to list "fat preservative added" or some similar term to feed labels in lieu of listing the specific antioxidant used in fats?

Ralph F. Kneeland, Jr., of the Food and Drug Administration, answered this question in the negative, but explained that the question of the acceptability of using the generic statement had arisen originally in connection with edible fats and it might eventually be allowed for use on fat constituents of animal feeds.

Is it necessary to register feeds manufactured and shipped the previous year to a dealer if the feed has been discontinued or revised?

It was noted that most state control officials do not impose a requirement such as the one suggested by the question, but it was said also that this concession should not be abused.

What is FDA's interpretation of the ruling which requires that samples of ingredients and mixed feeds be submitted with a new drug application?

Samples must accompany NDA's unless the applicant requests and is granted a waiver, FDA officials explained. But they also noted that FDA does not have the personnel nor the facilities to handle great quantities of samples and will view waiver requests sympathetically.

Should invert sugar guarantees be required for feeds represented to contain sugar or molasses as shown in name by terms such as "sweetened," "sugared" or "lassied" or for simple mixtures such as "beet pulp with molasses," etc.?

No definite conclusions on this question were reached, but it appeared that feed control officials were in favor of more exacting labeling requirements for feeds containing molasses or other sweetening agent.

Wally Griem, Wisconsin feed control official, suggested that the tag on sweetened feeds should contain some guarantee of sugar content.

When asked if the purpose of such a guarantee would be for the determination of nutritional value or taste appeal, Mr. Griem said it would be of "purely information value to the customer." He also suggested that the tag state the actual amount of the sweetener, not just the minimum or maximum amount.

Should non-nutritive or low quality carriers be allowed in supplements unless they add a physical quality not available in regular feed ingredients?

Control officials said this question was entered into the discussions primarily as a reminder to manufacturers that non-nutritive carriers are frowned upon unless they impart some desirable physical characteristic, such as some binders for pellets. An official noted that non-nutritive ingredients must be listed in the brand name of the feed, as for example, in "Layer Mash With 2% Granite Grit."

NEW DELAWARE FIRM

DOVER, DEL.—Easter Hill Hatchery, Inc., filed a charter of incorporation with the corporation department of the secretary of state's office here.

GPMMA Elects C. R. Myers as President

By DON E. ROGERS
Feedstuffs Staff

CHICAGO—C. Robert Myers, president, Myers-Sherman Co., Streator, Ill., was elected president of the Grain Processing Machinery Manufacturers Assn. at the 11th annual meeting May 6 at the Chicago Athletic Assn. building. He succeeds C. N. Hultberg, California Pellet Mill Co., Crawfordsville, Ind.

Richard L. Crom, general manager, farm equipment division, Butler Manufacturing Co., Kansas City, was elected vice president. New directors elected for three-year terms are Mr. Crom and Oak Smith, Wenger Mixer Manufacturing Co., Sabetha, Kansas. Vernon Hayes, Hayes & Stolz Industrial Manufacturing Co., Fort Worth, was elected a director for one year to fill out a vacated term.

Directors held over for terms expiring at a later date: Irl A. Daffin, Daffin Corp., Lancaster, Pa.; Robert Merwin, Eriez Manufacturing Co., Erie, Pa.; Mr. Myers; and Ralph E. Williams, B. F. Gump Co., Chicago.

John H. Wessman, Kansas City, was renamed secretary-treasurer.

The GPMMA has produced a new purchasing guide of feed mill machinery and equipment which is available to interested persons without charge, it was announced. It will be

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MACHINERY MANUFACTURERS — Officers and board members of the Grain Processing Machinery Manufacturers Assn. are pictured as the association held its annual meeting in Chicago. Left to right are Irl A. Daffin, Daffin Corp., Lancaster, Pa.; Harold Alsted, Sprout, Waldron & Co., Inc., Muncy, Pa.; Ralph E. Williams, B. F. Gump Co., Chicago; Richard L. Crom, Butler Mfg. Co., Kansas City, newly elected vice president; C. Robert Myers, Myers-Sherman Co., Streator, Ill., new president; Vernon Hayes, Hayes & Stolz Industrial Mfg. Co., Ft. Worth; C. N. Hultberg, California Pellet Mill Co., Crawfordsville, Ind., immediate past president; George F. Thomas, Prater Pulverizer Co., Chicago, and John Wessman, association secretary, Kansas City.

CAPITAL COMMENT

By John Cipperly
Feedstuffs Washington Correspondent

Farm Bill Flounders

WASHINGTON — The Cochrane-Freeman omnibus farm bill is floundering in congressional halls as repeated attacks from commodity groups demand exemption from the arbitrary provisions which passage would endow to a secretary of agriculture under the supply-management technique.

It now appears Harold Cooley, the House Agriculture Committee chairman, has lost control of his Democratic majority. Seven members of that majority have revolted against provisions of the bill, and even modifying amendments may not be approved.

On the Senate side, reliable sources say that the Senate Agriculture Committee may not act on the controversial measure earlier than mid-June, if any action is taken. The report is that Title I concerning price supports and supply-management will not be adopted in its present form, and, if passed, it will be so considerably modified that even Mr. Cochrane will not recognize it.

Thus far, individual commodity groups including the poultry and livestock industries have asked to be exempted from the supply-management marketing order and agreement techniques.

These views now seem to reflect the attitude of a majority of both agriculture committees.

On the virtual eve of the requirement of an official announcement for the 1961 wheat program, not later than May 15, it may be that the administration will abandon its sponsorship of the omnibus bill and lay it at rest in a cool congressional tomb.

However, the administration may make a last minute effort to obtain congressional approval of a temporary wheat bill, designed along the lines of the feed grain bill, which would cut back acreage as a prerequisite for a somewhat higher level of support and make payments to wheat farmers who comply with such a new bill.

The U.S. Department of Agriculture has been beating the tom-toms over the apparent success of its feed grain program and, using it as an example, might be able to persuade Congress to accept this compromise and bide its time for the omnibus bill until the second session of this Congress next year.

Grain Bill Rides High

WASHINGTON — The Cochrane feed grain bill seems to be riding the high wave of success, as indicated by the third progress report. This discloses that just short of 12 million acres have been signed up.

It is regarded as unfortunate that the Secretary of Agriculture is using official announcements of USDA in such matters to advertise just how much taxpayer money will be shoveled out to the participants in the program.

For the first time within recent memory, official USDA announcements feature cash available to farmers in the new program.

However to dim the black overtones of this program, it must be said that it differs only in method and technique from the soil bank program of the Benson administration which was aimed at the same target but missed its mark. Secretary Freeman made the temptation sweeter and prompter.

While USDA is exulting over its indicated success in the feed grain program, it is still uncertain as to the final reducton of the new corn crop aside from weather conditions.

One thing, however, is indicated and that is that last week's progress report on sign-ups for the feed grain program is little less than a vital bullish influence on December corn at Chicago. It has been a household judgment at USDA for many years that if 40% of the corn farmers entered into acreage allotments, the price support program would be successful. Announcements from USDA now present a rather distorted pattern of reporting on this account.

Increase in Fertilizer

Many corn farmers, still unhappy about the Freeman program, have signed up for acreage cutbacks and payment participation but are also preparing to plant their diverted acreage into clover and alfalfa hay which they will plow under to enrich that land for the next year's crop of corn. Also, local country bankers say that many farmers who have signed up and obtained their first down payment are using that money to buy fertilizer.

While USDA exults over its apparent success, at this time it remains to be seen how real such success may be. The acreage cutback based on recent yields indicates a corn crop of about 3.8 billion bushels which on the basis of recent disappearance for domestic feed use and export has been running over 4¼ billion bushels.

With small indication that the poultry industry intends to abate its zest for continued high levels of production, with a swine industry which is not too happy but not deeply disturbed by present lower but profitable prices, and with the livestock industry on an even keel, there seems to be a good certainty that if the crop is cut back to 3.8 billion bushels, there will be a need for a drawdown from CCC stock this coming corn crop year.

On the other hand, unless USDA is able to keep the free corn market price higher than the loan, the government will be taking in at the back door as much or more than it can sell back into the market.

But, on balance, December corn looks like a comfortable commodity for the bulls in the speculative markets.

There are some who now believe that the Chicago December corn contract may move up to the level of $1.35 to $1.37 to reflect the national average country price support level. From current values at Chicago for this contract, that is a substantial advance.

It seems to be a great risk to pursue that goal since this new administration has many faces and many unformed judgments. It is reported that the feed grain bill architect has told Congress that he plans to withhold USDA corn sales at the time of harvest. Up to this time no corn readily identified as certificate corn under the new program has entered the market. Yet CCC has been selling the alleged out-of-condition corn like crazy—almost double the amount sold last year. It is in part explained that they want to clean out storage space to make room for the take-over. The Benson administration used the same device—those sales of "in danger of going out of condition" corn.

While the speculative and hedging interests may be cautioned not to follow the December corn future up to the potential of $1.35 to $1.37 bu., it does seem prudent to believe that December corn at current Chicago Board prices is too cheap and must sell at higher levels.

Politically-Minded Group

The uncertainty in this market is obviously the unsure administrative staff at USDA, few of whom have any deep commodity market sense. These new gentlemen are, by and large, a politically-minded group but nevertheless a fine group of gentlemen. After all, every government official at administrative levels is primarily a politician.

The hazard is that they may make "shooting-from-the-hip" decisions to repair political fences without a full understanding of consequences. In their behalf, this reporter must comment that they are not hiding behind closed doors and are receptive to information and recommendations. In many respects this is a big swing away from the blockade which Secretary Benson had in his front office.

In regard to the official announcement of the corn sign-up, it is reported that the base acreage on farms signed up is about 33% of the average 1959-60 plantings of corn on more than 83 million acres. The diverted acreage this year represents about 41% of the base acreage on signed farms and about 13% of the 1959-60 average U.S. plantings.

We are in new ground and little if any real data is now available. However, as mentioned before, there are reports from bankers in one of the major corn states indicating that farmers are taking advantage of the government program but immediately plowing the advance payments they obtain back into fertilizer procurement at a rate approximately the same as they had used on their total acreage.

Dr. Cochrane may be defeated in his purposes by the farmer who still has his own pencil, a kitchen table and a piece of paper.

LIKE A FAIR—ONLY MORE SO—A combination of men, models, machinery and merchandise turned the exhibit halls of Chicago's Conrad Hilton Hotel into a display grounds for the National Feed Show held in conjunction with the annual convention of the American Feed Manufacturers Assn. More than 100 exhibitors attracted the attention of the convention's 2,625 registrants. Attendance was boosted by the combination of the convention and show.

COLLEGE

(Continued from page 1)

tural college, Dr. C. B. Ratchford said:

"Industry must recognize that the successful farmer of today is highly intelligent and well trained. Years of extension informal education have made him a discriminating buyer. Increasingly, he is insisting upon a particular type of feed delivered at a specified time and in a specified form. He will not happily accept substitutes. Furthermore, there will be considerable variation in the specifications demanded from farm to farm. . . .

"In this day when feeds contain many things, farmers need to know what is in feed, why it is there, what it will do and what will happen if it is not there."

Dr. Ratchford urged the feed industry to step up its educational efforts. And he said agricultural colleges must help the industry accomplish this task.

Because farmers will insist on specification buying, Dr. Ratchford said, industry faces this ultimatum: "Either the industry fulfills these specifications, or the farmers will mix their own feeds."

"Not General Recommendation"

Answering industry criticisms which have said extension workers are recommending on-farm mixing, Dr. Ratchford remarked, "I don't believe home mixing is a general recommendation at this time in any state. Even if it is, it is fast becoming an obsolete recommendation. Advancing technology and specialization are increasingly ruling out home mixing, provided industry does its job.

"If industry falls down on its job, the home mixers of the future will really hurt you, because they will be the big and the highly trained farmers—those who are now your best customers."

The extent of feed processing that is done on the farm in the future will depend on the feed industry and will be done in spite of what agricultural workers recommend, Dr. Ratchford said.

Another industry-producer relationship point which Dr. Ratchford brought out:

"Farmers are increasingly concerned with the feed industry competing with them in production. Farmers are raising questions as to why a feed company needs such a large volume of production on its 'test farms'. I fully realize that, generally speaking, the feed industry is not competing with farmers in production, but, believe me, farmers are surely talking about this."

"Positive Generation"

To further develop a three-way partnership of farmers, feed manufacturers and universities, Dr. Ratchford called for "positive cooperation" among the groups. "This means doing more than knowing each other—it means working together," he said.

"The most important single step" in accomplishinug this partnership, he said, is to develop a philosophy of cooperation.

Universities are undergoing changes in attempting to provide the type of educational programs, both in degree courses and in extension activities needed by industry, Dr. Ratchford noted.

"The feed industry is an indispensable partner of the farmer," he told the feed manufacturers. "Without the feed industry, the faramer would not be where he is today. Much of the technology incorporated in a bag of feed would not be available to the farmer unless you were in business. He noted also that most university workers now recognize the farmer-industry partnership and realize that many of their research findings could not be made available to farmers without the feed industry."

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Elect Dr. J. W. Nelson Chairman of AFMA Nutrition Council

CHICAGO—Dr. J. Wesley Nelson, research director, Nutrena Mills, Inc., was elected chairman of the Nutrition Council of American Feed Manufacturers Assn. at a meeting of the council's executive committee here. Elected vice chairman was Thomas A. King of Illinois Farm Supply Co., Bloomington, Ill.

Dr. Nelson succeeds Dr. W. W. Cravens, director of feed research and nutrition, McMillen Feed division of Central Soya, Ft. Wayne, Ind. Dr. Nelson has been a member of the Nutrition Council since 1946, chairman of its quality control committee and served two terms on the executive committee. He is a native of Mankato, Minn., and earned three degrees in agricultural biochemistry and bacteriology at the University of Minnesota. He was associated with the Minnesota Agricultural Experiment Station for 15 years prior to his employment with Nutrena Mills in 1943.

Mr. King succeeds Dr. Nelson as vice chairman of the Nutrition Council.

Mr. King has been active in the Nutrition Council since 1949, having served as management survey committee chairman prior to service as a member of the executive committee. He has been with Illinois Farm Supply Co. since 1941 after receiving degrees from the Universities of Nebraska and Illinois.

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5 New Members Elected to AFMA Nutrition Council

CHICAGO—Five new active members were elected to the nutrition council of American Feed Manufacturers Assn. at its 21st annual meeting here. These were: Kenneth D. Smith, Dannen Mills, St. Joseph, Mo.; Alec Loyd Poitevint, Flint River Mills, Inc., Cambridge, Ga.; L. C. Howell, Siler City Mills, Siler City, N.C.; Dr. Bartley P. Cardon, Arizona Milling Co., Tucson, Ariz., and Dr. Woodie P. Williams, Jr., Miller & Bushong, Inc., Rohrerstown, Pa.

Each active member of the council must meet prescribed training and experience qualifications, and his employing company must maintain certain biological research and quality control facilities.

Five organizations were elected to serve two year terms on the Allied Industry Association Advisory Committee. These organizations and their spokesmen are: Animal Health Institute, Dr. Sterling Brackett; Corn Industries Research Foundation, Inc., Dr. John T. Goodwin, Jr.; Salt Producers Assn., Dr. Gustav Bohstedt; National Flaxseed Producers Assn., Gleason Diser, and the U.S. Livestock Sanitary Assn., Dr. H. G. Geyer. Eleven other industry organizations are serving two year terms which expire in 1962.

The nutrition council is one of AFMA's most active groups. Its 11 committees, involving some 90 scientists, conduct year-around programs in nutrition, quality control and biological research. Their reports at the meetings during the AFMA conventions and at semi-annual meetings each fall, summarize activities of wide range and scope. Printed proceedings of these reports, and appropriate actions taken on each are published by AFMA and distributed to all members.

KANSAS FEED MILL

PENALOSA, KANSAS—An investigation to determine the feasibility of installing a new feed mill here will be conducted by the Penalosa, Kansas, Cooperative Exchange.

PURCHASING COUNCIL — Discussion continued through dessert during this session of the executive committee of the Purchasing Council of the American Feed Manufacturers Assn. in Chicago. Members listen as Warren Olson (right), Osborne McMillan Elevator Co., makes a point. Re-elected president of the council was Theodore Harstad (at the far end of the table), Doughboy Industries, Inc. A revised committee structure was adopted by the council during the 53rd annual convention of the AFMA.

Feed Purchasing Agents Select New Name

CHICAGO — Feed manufacturing company purchasing agents selected a new name for their group and adopted a new organizational structure in their eighth annual meeting held in conjunction with the 53rd annual meeting of the American Feed Manufacturers Assn. here.

Purchasing Council of the American Feed Manufacturers Assn. is the new name selected by a record attendance of 85 purchasing agents. The group was previously named the Committee of Purchasing Agents.

The newly adopted organizational structure provides for:

(1) A vice chairman who will automatically succeed the chairman the following year.

(2) The chairman from the previous year to serve as an additional member of the executive committee.

(3) The position of secretary to be filled by a member of the AFMA staff.

In the election of officers, Ted Harstad, Doughboy Industries, Inc., New Richmond, Wis., was re-elected chairman; Clarence Merkel, Moorman Manufacturing Co., Quincy, Ill., was elected vice chairman, and Lee H. Boyd, director of feed control and nutrition of the AFMA staff, was elected secretary.

Other business included the election of seven new members to the executive committee. Elected to three-year terms were: John P. Brooks, H. K. Webster Co., Boston; R. E. Larson, Pennsylvania Farm Bureau Cooperative Assn., Harrisburg, Pa.; Karl Nedela, Crete Mills, Crete, Neb.; S. J. Schuster, Dixie Mills, East St. Louis, Ill., and A. J. Smith, McMillen Feed Division, Central Soya Co., Ft. Wayne, Ind.

Ray Wistrom, Hubbard Milling Co., Mankato, Minn., was elected to the executive committee for a two-year term and Warren Olson, Osborne McMillan Elevator Co., Minneapolis, was elected for a one-year term.

Feed Men Rank Production Research Needs; Research Funds to Be Asked

CHICAGO—What feed production problems do feed manufacturers feel are most in need of research designed to come up with some answers which will help solve the problems?

It seems that separation of mixed feeds in handling and possible production problems related to use of micro-ingredients in feeds are among the top problems as viewed by feed men throughout the country. However, research on a good many other things—including dispersal measurement, mixing methods, bin flow and pellet durability—is desired, too.

The results of a survey in which feed men rated the need for various possible production research projects were outlined at a meeting here this week of the board of trustees of Feed Production School, Inc., sponsor of the annual Production School in Kansas City in September. The board meeting was held in connection with the American Feed Manufacturers Assn. convention at the Conrad Hilton Hotel.

Announcement of the survey results was part of a presentation on Feed Production School research program plans. Joe Sloan of Cosby-Hodges Milling Co., Birmingham, Ala., chairman of the board, outlined the proposed program and explained that industry members are being asked to share in the program to be coordinated and sponsored by Feed Production School, Inc.

"Shares in Research"

Individual firms—including small as well as large feed manufacturers, integrators, machinery companies and others—are being asked to invest in the "Shares in Research" program by making a contribution for each year of a three-year period.

Feed Production School, Inc., Mr. Sloan explained, surveyed 250 feed mills and obtained a 60% response in seeking industry ideas on research needs. The feed men were asked to rank several suggested projects in the order of need as they see it.

Here's how the projects were rated in priority of importance:

1. Basic research into the separation of mixed feeds in elevating, conveying and binning systems—including (a) measurement of separation in elevators, conveyors and bins; (b) measurement of effectiveness of known methods of minimizing separation; (c) research into methods to minimize separation.

2. Develop standard rapid-analysis procedures for in-plant testing of micro-ingredients, for quality control and contamination checks.

3. Develop standard methods of measuring dispersal of ingredients through mixed feeds for production control and performance testing.

4. Basic research into effectiveness of known means of mixing, including liquids.

5. Evaluation of additives as a means of increasing pellet durability and reducing fines in pelleting and crumbling.

6. Continuation of research into flow of materials within a bin, including effective means of eliminating bridging.

7. Effects of conditioning, interior

(Turn to RESEARCH NEEDS, page 70)

AFMA

Many Changes Still To Come, Feed Control Head Notes

CHICAGO—While there have been tremendous developments in nutrition and animal health and in the application of this knowledge to feed formulation and manufacturing, this has been only the beginning. And there will be further marked changes in the feed industry and in feed control as well, with many old concepts likely to be abandoned.

This situation was pointed out by E. A. Epps, Jr., of Baton Rouge, La., president of the Association of American Feed Control Officials, in a talk at the American Feed Manufacturers Assn. convention this week.

The emphasis more and more will be on performance of feeds, Mr. Epps observed. However, he added, this will not eliminate the need for regulatory work. Rather, he said, this activity will be of even greater importance because quality evaluation will be even more complex.

Referring to the technical developments which have occurred and are still continuing, Mr. Epps said: "Just what direction will be taken is not clear. But it is more than probable that many old concepts will be abandoned. It is almost certain crude protein, fat and fiber per se will become of little significance in characterizing feeds. Increased stress on factors such as amino acid balance and energy, coupled with techniques such as linear programming, makes it likely

(Turn to CHANGES, page 70)

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Traffic Committee Of AFMA Elects T. V. Hansen Head

CHICAGO — The executive traffic committee of the American Feed Manufacturers Assn. elected T. Vernon Hansen as chairman for the coming year during the committee's meeting here May 8.

Mr. Hansen is general traffic manager of Cooperative Mills, Inc., Baltimore. He has held his position with Cooperative Mills since 1955. Prior to that he was associated with Pennsylvania Farm Bureau Cooperative Assn. and with Honeggers' & Co. in executive traffic capacities.

Other officers elected were: Vice chairman, A. E. Leitherer, Allied Mills, Inc., Chicago, and secretary, J. V. Springrose, Nutrena Mills, Minneapolis.

The committee voted to voice opposition in Senate hearings later this month to proposed Senate bills S1089 and S1197 which seek to impose certain restrictions on railroads in setting freight rates. The committee approved recommending to the AFMA board of directors that the board designate H. N. Johnson, general traffic manager, Ralston Purina Co., to appear at the hearings as official spokesman for the AFMA.

The committee also voiced its opposition to the eastern rate adjustment which has been proposed by certain railroads in the eastern section of the U.S. Five formal points of opposition to the proposed adjustment were adopted as follows:

(1) Present transit arrangements must be maintained.

(2) Present routing must be continued.

(3) It is necessary to protect the inbound rate on the through movement.

(4) It is necessary to protect the actual outbound weight when cars of a smaller capacity are used.

(5) There should be established a three-way minimum rate rule in lieu of the six-way rule proposed.

Theme of Economy Prevails at Georgia Broiler Grower Meeting

By ROBERT H. BROWN
Special Correspondent

ATHENS, GA.—With the broiler market hanging in the 13 to 14¢ range, Georgia growers gathered here last week to discuss better housing conditions and higher conversion with a theme of economy in view of the general economic situation.

Even through there was an air of sobriety in the audience attending the Broiler Short Course at the University of Georgia, growers looked to the future and applauded when a speaker said the chicken business in Georgia will be around for a long time to come.

Economy was definitely in the air at the session. Speakers emphasized economical housing and ventilation of present buildings with a reduction in condemnations, getting higher feed conversion and living with the market at least for the next few months. The general feeling here was that low prices will prevail until fall, at least. Noticeably absent was reference to some of the more expensive houses mentioned prominently in meetings in the South recently.

Beating the Heat

A poultryman, Clarence Fisher, Jr., broiler coordinator of the Athens Poultry Co., said there are lots of things that can be done to premises which will enable growers to beat the heat during the coming summer months without spending a lot of money.

Heat during the summer is an economic problem for the grower and dealer, and an extremity of it can mean conversion goes up 20 to 30 points; birds are 25 points lighter than usual and mortality can go up 5 to 10%, he said. Twenty-five points of conversion can cost the grower a penny a pound in feed. Mortality due to heat, at 70%, can mean $4.62 per thousand.

Assuming a loss of birds, normally at $31.25 per thousand and at $71 as a result of heat "it gets rough on the grower and dealer," he said.

Therefore, without spending a lot of money in these times, he said, the problem may be solved by keeping heat out of houses and letting it escape after it does get in.

Eleven methods of doing this economically and using present facilities in most cases were given by Mr. Fisher.

Asks for Re-Study

He called for a re-survey of present facilities. It doesn't cost a penny to study present houses to see what can be done to cool off the houses during the hot months ahead, he said.

He suggested wind tunnel type of ventilation in some houses by closing all side windows and opening end doors and depending upon air drainage and prevailing breeze. This method can move a lot of air through the house and not cost a dime.

Then there is the chimney type ventilation, which can be achieved by closing the house except for the ridge ventilators and bottom ventilators. "This draws air across the birds from the bottom ventilators and out of the ridge ventilators," he said.

"We should think of houses as wind tunnels; not broiler houses. Drafts don't bother too much during warm weather," he said, pointing out that chimney ventilators will work in some houses and in others they will not. Opening end doors and closing sides will also work in some and not in others. The owners should experiment with their houses, he said, to see which method does the best.

There are a lot of things that can be done to cool houses in the summer without spending a lot of money. For example, he said, weeds must be cut down around the outside for proper air circulation and grass should be grown on the grounds adjoining the building because it is cooler than bare ground.

Trees should be allowed to grow near houses but limbs should be cut off below the roof level.

Built up litter only adds to the heat, and he suggested that it should be cleaned out to the ground for summer growing.

Houses should not be made crowded during the summer. It is a good idea to reduce the number of birds, he said.

Adjust Lighting, Feeding

"It is a well known fact that during hot weather birds eat better at night. So let's encourage them by using all night lights and early morning and late afternoon feedings," he said.

Water during the summer is one of the most important items of all. Evaporation of 50 gallons of water has the same cooling effect as the melting of 2,800 pounds of ice, he explained.

Quoting test runs by the U.S. Department of Agriculture, Beltsville, Md., and the University of California, Mr. Fisher said broilers consume 2 lb. water for each pound of feed consumed at 65 degrees. The same birds at 95 degrees consume 4.7 lb. of water for each pound of feed.

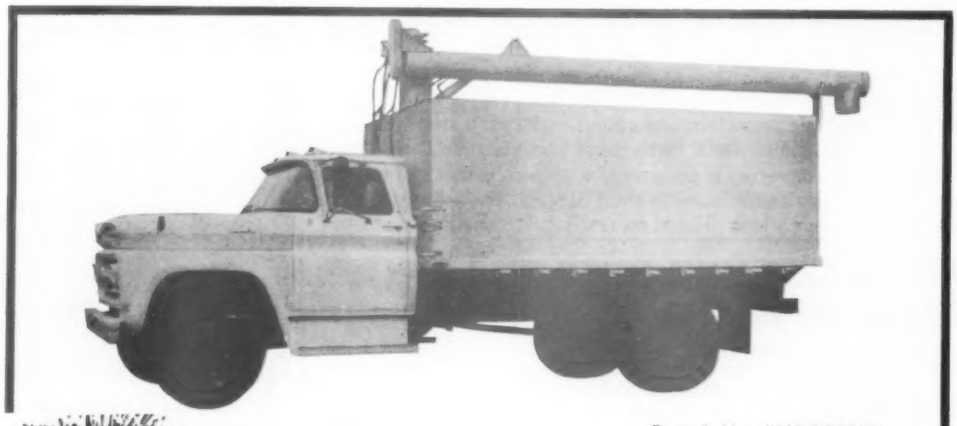
"Let's provide them more waterer space; it's cheap. If you're using 5 foot feeder troughs, then 4 or 5 troughs may be filled with water to provide extra waterer space. Otherwise, foot tubs or buckets will help. No broiler should have to walk more than 10 ft. for water. Cool water will increase water consumption, and it might be a good idea to put a cake of ice in the water medication barrels. A soaker hose on the ridge ventilator will lower house temperature 7 to 10 degrees. Another thing that might be considered is to wet 4 to 6 in. of straw or pine boughs on house roof. This extra evaporation helps reduce house temperature. Fans and fan fogger combinations give added circulation and cool by evaporation," he explained.

Building Costs

The economy theme in building was also stressed by Richard Noles, poultry management specialist, University of Georgia.

A building is a fixed cost item and in periods of falling prices such as the one currently in the industry, it is fixed costs which sap the strength of the firm, he said.

The grower should realize that housing is an investment over time, and know whether it is to be used for a long-range project. Flexibility is



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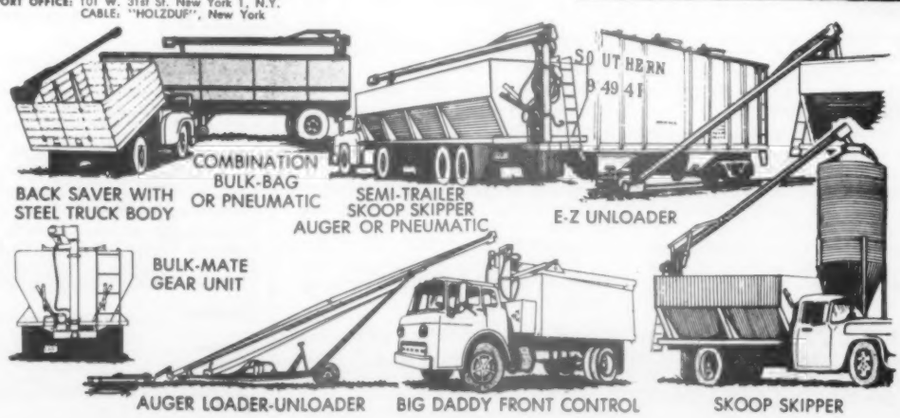

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desired because if a grower decides to get out of the chicken business after a year or two, an expensive building may prove to be a financial burden, he commented.

"The more we specialize a structure the less flexible it becomes. Our semi-permanent broiler houses have a lower investment cost and usually a shorter life than a more permanent building. But where capital is limited or where changes due to obsolescence are great, this kind of building flexibility is very important. The important thing on farms which cannot stand to lose heavily is to keep flexible by maintaining opportunities for changing enterprises," he said.

Georgia is blessed with an ample supply of labor that has helped make the state the leading broiler producer. They, generally, are people with limited funds. This, together with the fact that land is comparatively cheap, is an asset. To take advantage of these two situations the industry needs a comparatively low cost house that will not work a hardship on the grower if he decides to get out of the business.

"Capital is the limiting factor. I favor the temporary or semi-permanent type of building. This kind of building flexibility is extremely important. Flexibility is worth money. Obsolescence is not a problem as with the more expensive house. If we can take the cheaper house and put good management into it we can make more money," he said.

"Some houses are not economical. Condemnations of 20 to 30% should not be in the broiler business. Those who are getting poor feed conversion are doing the poorest job and are on the edge of going out of business," Mr. Noles said.

Reducing Heat Losses

Again taking the economy angle in housing, W. E. Hudson and Robert Brown, professors of agricultural engineering, University of Georgia, went into details on how to reduce heat losses. Speaking jointly, these two authorities suggested that growers seek basic facts about insulating present buildings and new ones.

With the aid of engineering facts and figures, growers can do much to tighten up houses to keep heat from escaping during the winter, they said.

Respiratory Diseases

Dust and ammonia odors offer potentialities in affecting the functioning of the respiratory system of birds and clogging up can cause death in one to two hours, Dr. Till M. Huston, poultry physiologist, University of Georgia, cautioned in urging plenty of good clean air for birds.

Using slides of the chick's respiratory system, Dr. Huston traced the flow of air and showed how microorganisms invading birds can cause serious harm. He spoke in the place of Paul Sturkie, professor of poultry husbandry, Rutgers University, who was unable to appear.

CHICK VISITS CHICKS — Donna Payne, Little Rock, Ark., learns more about the poultry business after becoming the first contestant to sign up for the second annual Arkansas Poultry Princess-Miss Universe Contest. Preliminaries to the state finals in Little Rock, June 9-10, will be held in Springdale, Batesville, Hope and Russellville. Miss Payne is a student at Little Rock University and is sponsored in the contest by Darragh Co., Little Rock.

Tell Plans for Arkansas Poultry Princess Event

LITTLE ROCK, ARK.—Arkansas' new state poultry princess and Miss Universe entry took her first step toward winning the 1961 title with the first of four district poultry festivals set for Springdale May 13.

Three other district events, to precede the state festival here June 9-10, will be held in Batesville May 20, and simultaneously in Hope and Russellville on June 2.

The Arkansas Poultry Federation, sponsoring the state festival and cosponsoring district festivals jointly with local chambers of commerce and junior chambers of commerce, has boosted prize money for winners of the 2nd annual beauty pageant to a total of $1,750. The winner will receive $1,000, first runner-up will be awarded $500 and second runner-up a $250 cash prize.

Four winners will be selected from each of the four district contests to compete as finalists in the state poultry princess pageant to be held here. The winner will represent Arkansas at the Miss Universe Pageant to be held in Miami Beach, Fla., July 7-16, and in addition to her cash award, will receive an all-expense paid trip to the Florida pageant.

Ed Harms of Russellville has been named chairman of the state committee handling all district contests and the state finals.

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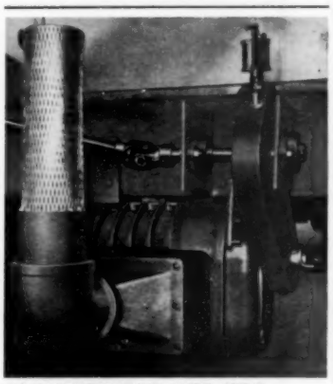

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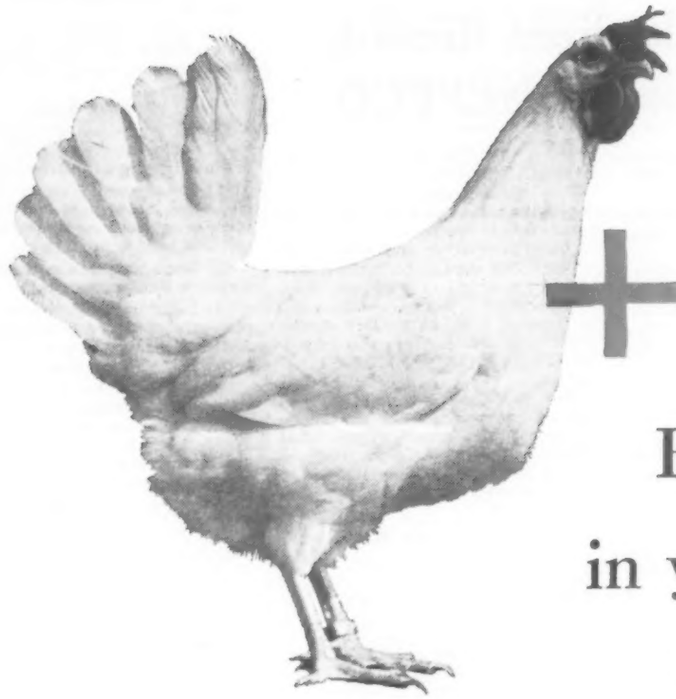

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Feed Firms to Cooperate

Program to Establish Standardized Records For Poultry Industry Revealed by NEPPCO

By JAMES W. MILLER
Feedstuffs Staff

TRENTON, N.J. — Details of an ambitious program to establish standardized production records in the poultry industry were revealed here last week by the Northeastern Poultry Producers Council. Called the Poultry Business Systems Service, the program is designed for feed manufacturers, poultry marketing interests and hatcherymen to sponsor accurate, standardized record-keeping of poultry operations.

While NEPPCO is the guiding force behind the project, the idea grew from cooperative efforts with the American Feed Manufacturers Assn. The financially disastrous fall of 1959 led to meetings between the AFMA and NEPPCO in order to determine ways in which the poultry business might be placed on a sounder basis in the future.

This investigation concluded that one of the basic causes of reoccurring weak spots in the poultry market lay in "over-production and under-marketing." The committee further realized the problem of over-production was due chiefly to unwise flock owner decisions based on the lack of adequate, accurate, easy-to-compare production performance and cost information.

The group decided that a sound business program must be based upon a standardized record system that would lead to better production decisions and at the same time form the foundation of a sound financial record.

Business Systems Service

NEPPCO decided the first target for the program would be the egg industry and the initial phase of the plan has been the introduction of the Poultry Business Systems Service to laying flock owners in NEPPCO's 14-state area. The feed industry and various state extension services will play major roles in the program.

The basic idea is that the flock owner keep an accurate record of his egg production on a standardized pen record sheet showing egg production, hens on hand and feed used. Then, with the help of his county extension agent, the information is transferred to a punched card and sent to NEPPCO's data processing center.

Data Processing

Here the data is processed, key ratios are figured and a full report is returned to the flock owner. The report includes information on egg production per bird, per cent rate of lay, pounds of feed per 100 birds per day and per cent livability. Additional information includes pounds of feed per dozen eggs, feed cost per 100 lb., cash cost of feed per dozen eggs, cash labor costs per dozen eggs, estimated bird depreciation cost per dozen eggs and total cash costs per dozen eggs.

A total record of all information concerning all flocks is kept by the data processing center which then furnishes the feeder a summary sheet showing the average of certain key information. The feeder may then make comparisons with other flocks to determine his own efficiency. The pay-off comes when the egg producer is able to show a complete business record to his banker.

The program of the individual egg producer begins when he acquires a pen record book for each pen as a flock of layers is initiated. This consists of a pad of uniform flock records on a clipboard which is to be hung in the vicinity of the pen. An arbitrary standard laying week of Friday through Thursday has been set up, and a standardized laying period starts at 141 days of age. A flock is considered to be 141 days old on the Friday nearest the day when most of the birds in the flock are 141 days old.

Four-week periods are summarized on each page, avoiding inaccuracies due to months varying from 28 to 31 days.

Initiating System

Flock owners can be initiated into the Poultry Business Systems project in a number of different ways:

(1) Feed manufacturers can purchase the record pads and distribute them to egg feed customers as a part of their service programs.

(2) Hatcheries can sponsor record pads for their customers.

(3) Individual subscribers to the plan can apply direct to NEPPCO, 10 Rutgers Place, Trenton 8, N.J., or through their local county agents.

Space is available on both the pad cover and the clipboard for brand advertising by sponsoring companies. While the pads and board cost $1.50 apiece, there are bulk discounts available to sponsors.

$25 Service Charge

For the complete service covering records and data processing, a charge of $25 per flock will be made. In Maine where a similar program already is in operation, it is estimated that such a charge is economically feasible and paying off for flock owners with 800 or more birds. Actually, for a 1,000-bird flock the cost would average out at 2½¢ per bird.

Already at least one major manufacturer in the Northeast is converting its customers to the system and is paying for the cost of the record books. Each producer in this plan is expected to pay for his own data processing.

While the plan is getting underway officially in the Northeast, NEPPCO stresses the fact that they invite interest from feed manufacturers, hatcherymen and feeders from all over the U.S. After the egg program is rolling, the eastern association plans to extend the plan to broilers and turkeys. Eventually, it is hoped to come out with a factual "Poultry Businessman's Handbook."

Directing the program is a committee composed of three northeastern extension service men, two representatives from the AFMA and two from NEPPCO. They include John Bezpa, Rutgers, New Brunswick, N.J.; John Tobey, Cornell University, Ithaca, N.Y.; Harry Wheldon, University of Maine, Orono; Alem Smith, Beacon Milling Co., Cayuga, N.Y.; Oakley M. Ray, AFMA, Chicago; Dr. Alfred Van Wagenen, NEPPCO, Trenton, and Dennis Wade, Suffolk, Va., poultry processor.

Grain By-Products Reported Okay as Litter

By KELVIN ADKINS
Special Correspondent

SALISBURY, MD. — Farmers in this area may be able to get just a little more "mileage" out of their corn and soybean crops. The by-products as well as the grain can be used by the broiler industry.

Tests at the University of Maryland Broiler Substation indicate satisfactory results with the by-products converted into litter.

Seven different kinds of litter were under study in Trial No. 33. They were: Crushed corn cobs, wood shavings, soybean straw, marsh grass, corn stalks, peanut hulls and shredded sugar cane.

At one time, the Delmarva poultry industry had an abundance of sawdust and wood shavings. Today there is the same supply but the broiler industry has expanded to the point where a shortage of litter has been created, especially during the winter months.

James Nicholson, extension poultryman, and the local county agent, Robert Miller, have been looking for other sources of litter.

Feed conversions varied only from 1.99 to 2.03. The poorest conversion was obtained when birds were reared on the wood shavings. The three local sources of litter—marsh grass, soybean straw and corn stalks—had pens of broilers averaging 3.38, 3.37 and 3.40 lb., respectively. Wood shavings and crushed corn cobs produced the lowest average weights, each 3.34 lb. Shredded cane and peanut hulls were the best litters as far as bird weight is concerned, averaging 3.42 and 3.41 lb., respectively.

Data Revealed

At a field day here, processing data from the previous trial was given. Birds produced on soybean straw yielded the highest number of grade A carcasses. Sixty-five per cent of these birds were grade A and 35% grade B. Corn cob litter had a yield of 55% grade A's and 45% grade B's. Corn stalk litter was 60 and 40% respectively. Shredded cane gave the poorest results, 52.5% grade A's and 42.5% grade B's.

In the litter experiments, all conditions were the same except for the litter.

A third part of Trial No. 33 was a comparison of the popular broiler crosses. Crosses involved were: Vantress x Arbor Acres; Indian River x Pilch; Vantress x Hubbard 39, and Vantress x Pilch. The Vantress x Hubbard 39 cross gave an impressive performance. Looking back at data from Trial No. 32, this cross had the heaviest weight and the best feed conversion figure. The dressing percentage was 76.93, topped only by the Indian River x Pilch cross with a dressing percentage of 78.95.

University of Maryland Sub-Station—Trial No. 33—8 Weeks

BROILER CROSSES: Both Sexes Cross	Ave. weight	Conversion	Previous trial	Dressing percentage
V x AA 50	3.28	1.99	(3.44 — 2.15)	75.18
I. R. x Pilch	3.30	2.02	(3.49 — 2.14)	78.95
V x H 39	3.37	1.99	(3.64 — 2.12)	76.93
V x Pilch	3.38	2.02	(3.52 — 2.17)	72.89

LITTER STUDIES

Variable	Ave. weight	Conversion	(Previous trial)	Grade A	Grade B	Grade C
Shredded sugar cane	3.42	1.99	(3.44 — 2.11)	52.5	42.5	5
Crushed corn cob	3.34	2.02	(3.33 — 2.15)	55	45	0
Wood shavings	3.34	2.03				
Soybean straw	3.37	1.99	(3.38 — 2.13)	65	35	2.5
Marsh grass	3.38	2.00				
Corn stalks	3.40	1.99	(3.37 — 2.14)	60	40	0
Peanut hulls	3.41	2.00				

Scientist Honored

ITHACA, N.Y.—Dr. John I. Miller, animal husbandry scientist at the New York State College of Agriculture, Cornell University, received the New York Farmers' Award for outstanding research at a dinner in New York City recently.

The Cornell man was presented a $500 prize and a bronze medal citation for his contributions to livestock production, especially beef cattle.

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AVI Net Earnings Climb to $540,263

DARDANELLE, ARK.—Arkansas Valley Industries, Inc., of Dardanelle had net earnings of $540,263 during the fiscal year that ended April 1, Harold Snyder, AVI president, announced.

The earnings are equal to $3.01 a share on 179,523½ shares of common stock outstanding April 1, Mr. Snyder said. The earnings compare with $174,584 during the year that ended March 31, 1960. Adjusted to the number of shares outstanding April 1, 1961, the previous year's net earnings were 97¢ a share.

An audit by Touche, Ross, Bailey & Smart of Kansas City shows sales of $20,998,262 during the fiscal year just completed, compared with $15,254,774 a year ago. Earnings before deduction of income taxes and minority interest were $925,743 in the year just ended, compared with $228,471 a year earlier.

AVI is an integrated food producer and processor, specializing in poultry and poultry products. Its stock, traded over the counter, was offered to the public in September, 1960. The AVI board declared dividends of 50¢ a share for the year just ended.

The company operates feed mills at Dardanelle and Waldron, Ark., hatcheries at Dardanelle and Russellville, Ark., processing plants at Dardanelle and Russellville and feed dealerships at Dardanelle, Waldron, Alma, Clarksville, Booneville, Paris, Danville, Perry and Morrilton, Ark. AVI has about 900 employees and has contracts with about 425 independent poultry producers.

Arkansas Firm Plans $500,000 Expansion

DANVILLE, ARK. — The Joe Ray Poultry Co. has completed construction on nine out of 10 new poultry houses on Chickalah Mountain near here and plans to begin construction of 16 more houses.

Officials of the firm say that the 26 new houses will represent an investment of $500,000 and will be used to maintain a 130,000-hen supply flock to keep the firm's hatchery operating at capacity.

Birds have been placed in six of the new structures. The 10th unit on the Chickalah Mountain site will be completed about June 17, according to the firm.

John F. Young Co. Names Sales Manager

CINCINNATI, OHIO—Harley Aylor has been appointed sales manager for the John F. Young Co., Cincinnati, manufacturers' agent for feed additives.

Harley Aylor

Associated with the company since 1956, he will be in charge of sales in Indiana, Kentucky, Tennessee, Illinois and Michigan. He was previously associated with Early & Daniel Co., Cincinnati.

Pacific Foundry Buys C. O. Bartlett & Snow

SAN FRANCISCO — Robert L. Chambers, president of Pacific Foundry and Metallurgy Co., San Francisco, has announced that the management and stockholders of The C. O. Bartlett & Snow Co. have accepted an offer whereby Bartlett-Snow has been purchased by Pacific. The new corporation will be known as Bartlett-Snow-Pacific.

Bartlett-Snow, established in 1885, is well-known throughout the grain, feed and allied industries as the manufacturer of Triumph corn shellers, cob blowers, cob crushers, pit screws, scalping screens and allied equipment. The company also manufactures dryers, calciners, kilns, coolers, and conveying and elevating equipment for the chemical and process industries, and integrated foundry systems.

Pacific Foundry & Metallurgy Co., established in the nineteenth century and incorporated in 1902, is a manufacturer of multiple hearth furnaces used for processing ores and chemicals, high-silicon pipe and castings.

The San Francisco and Cleveland companies will operate as separate divisions. The Bartlett-Snow division —of which Triumph is a part—will be continued at Cleveland.

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Kansas Group's District Meeting Sites Told

HUTCHINSON, KANSAS — Locations for its four district meetings during May and June, which will include dinner and entertainment in addition to the business program, have been announced by the Kansas Grain & Feed Dealers Assn.

The first meeting will be held May 15 at the Bellevue Country Club in Atchison. Wm. B. Heiser, secretary-treasurer of the Atchison Board of Trade, is the contact man for this meeting.

Other meetings will be held at Iola, Beloit and Colby. Locations, dates and contact men for each of these meetings follow: Iola, May 17, Kelly Hotel, Royal R. Cox, Cox Grain Co.; Beloit, May 20, Porter Hotel, Ralph W. Dockstader, Jr., Dockstader Grain Co.; and Colby, June 3, Cooper Hotel, W. E. Cooper, Cooper Grain, Inc.

Summer Hog High Of $19 Expected

COLUMBIA, MO.—A summer high of $19 in hog prices during June or early July is expected by Glenn Grimes, extension livestock marketing specialist at the University of Missouri.

He noted that the price would be very close to the price level of a year earlier.

"After midsummer, hog prices will likely be below the levels of a year earlier, with the fall prices being down $2 to $3," Mr. Grimes said. He commented, "The pattern of prices this fall is expected to be quite different from a year earlier. In 1960, hog prices reached a high in mid-July and dropped quite sharply in August to a low for the fall season. Prices recovered in September and remained stable through the rest of the year." Mr. Grimes said this was quite a departure from the seasonal pattern of hog prices in the past.

"With more uniform farrowing throughout the year, seasonal price patterns probably will not be as consistent as in the past," Mr. Grimes predicts. He said he expects prices in the fall to decline fairly steadily from the summer high to a low of about $14 on barrows and gilts at the river markets, with the low likely to come in November.

Beef Cattle Day Planned for May 26 At Oregon State

CORVALLIS, ORE.—New ways to boost Oregon's income through an improved beef cattle industry, already an $80 million annual business in farm sales, will be reviewed May 26 at Oregon State University here.

Cattlemen from throughout Oregon and representatives from related industries will convene for the annual beef cattle day starting at 9 a.m. in Withycombe auditorium, reports A. T. Ralston, OSU animal husbandman and chairman of the special beef day.

Research findings in beef cattle feeding, breeding and ranch management are among key topics. Current research in Oregon will be reviewed by Dr. J. C. Miller, head of OSU dairy and animal husbandry department which is sponsoring the program.

OSU researchers will discuss high concentrate diets in beef production, protein supplementation of native roughages, trace minerals in cattle feeding, and "dollars and sense" of beef cattle carcasses and cuts.

Two leading cattlemen of Oregon, Herbert Chandler of Baker, and Irvin Mann, Jr., of Stanfield, are among main speakers. Mr. Mann is president of the Oregon Cattlemen's Assn.

Other topics include a discussion of current disease problems in livestock. Dr. L. M. Koger, Ontario veterinarian, will review veterinary herd health consultation.

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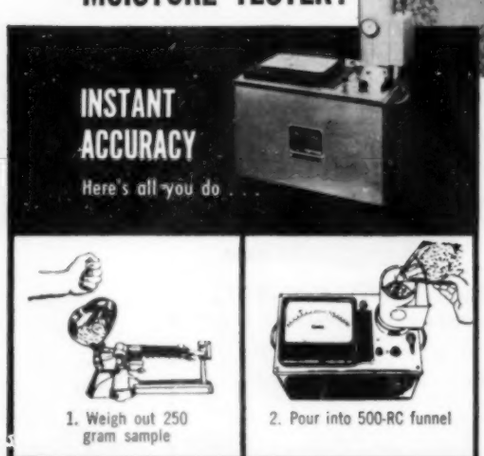
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Charles E. Rainey Wayne C. Bauer

Vineland Poultry Labs Names 2 Salesmen

VINELAND, N.J.—Vineland Poultry Laboratories, Vineland, has named two new sales representatives in the midwest.

Charles E. Rainey, Little Rock, Ark., will serve an area comprised of Arkansas, Oklahoma and Missouri. Wayne C. Bauer, Cissna Park, Ill., will represent Vineland in Illinois.

Mr. Rainey has been associated with an Arkansas hatchery and is experienced in the region's poultry health and management problems.

Mr. Bauer has two years of selling direct to farmers and 2½ years of selling to dealers in the animal health field.

Vineland Poultry Laboratories is a manufacturer of poultry vaccines, drugs and biologics.

500 Turn Out for PENB Booster Day

NEW YORK — A record-breaking 500 consumer information communicators and others interested in food preparation and uses attended the Poultry & Egg National Board's 13th annual Poultry Products Booster Day program in New York City recently.

Nearly 50 food and related industry exhibitors illustrated how their products can tie-in with eggs and poultry meats and give support to the theme, "Food is Fun in '61." The Reynolds Metals Co. won the Golden Egg Award for the most outstanding display, which was sponsored by the Food Field Reporter.

In addition to informational materials distributed by exhibitors, PENB presented each guest with an extensive kit of material which included a liberal selection of PENB leaflets and booklets, a National Chicken Cooking Contest release and entry blank, a recipe folder of featured dishes, reprints of professional journal advertisements stressing the nutritive values of eggs, an exhibitors' list, a guest acceptance list and a Chicken for Father's Day recipe release.

Cooperating with PENB in staging Poultry Products Booster Day were the Delmarva Poultry Industries, Inc., National Turkey Federation, Northeastern Poultry Producers Council and the Long Island Duck Growers Cooperative, Inc.

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Cites Future for Family-Type Poultry Farm in California

DAVIS, CAL. — The family-owned and operated poultry farm can stay in business in California for a long time, if it's big enough, Arthur Shultis told the University of California Poultry Institute here.

Mr. Shultis, farm management specialist at the University of California, who forecast generally increasing size and declining numbers of poultry enterprises, said he was convinced that California's future egg production would not come, as has been suggested, from 100 egg factories of around 250,000 hens each.

"Mere size is no guarantee of success," the agricultural extension service economist told the Poultry Institute audience.

"As the size increases above 20,000 hens, where an interested working owner-operator and hired man do all the work, the requirement of superior management becomes highly important. So I expect to see family-owned and operated poultry farms of from 10,000 to perhaps 30,000 continue successfully in competition with the larger businesses operated with a hired manager and disinterested hired labor."

California Advantages

Distance from the egg surplus of the north central states, a climate allowing cheaper housing, and an edge in poultry technology, have given California advantages that should keep the state's egg and broiler price about 2¢ above the U.S. average, Mr. Shultis said.

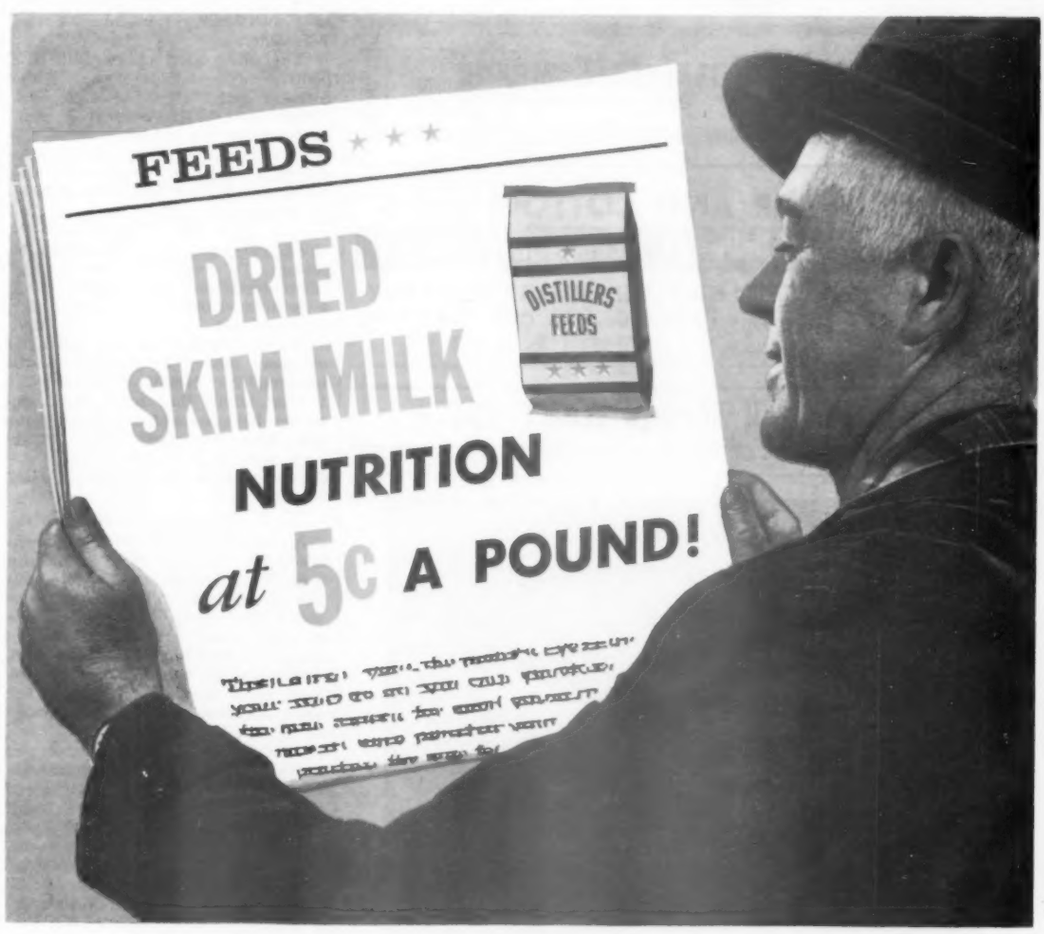
There probably is room for greater California production of poultry meat, he suggested. The average American is now eating about 24 lb. of broiler meat a year, and California raises only about 9 lb. per capita.

"We should be able to produce these birds locally in competition with ice-packed or frozen birds shipped in from other areas, such as the southern and southeastern states," said Mr. Shultis. "But we cannot profitably produce here and ship out to large consuming centers to sell in competition with broilers produced nearer those markets and at lower costs."

Mr. Shultis predicted some farm changes.

"We have seen a recent increase in egg packing on poultry farms," he said. "Although this is still too new to be sure that more egg packing will move back to the farms, we are sure there will be some decentralization and more packing in areas of production.

"This reduces transportation costs and shortens the time between the laying of the egg and its delivery to the store for the consumer to buy. If properly done, it will improve the quality and maintain our local monopoly on grade AA eggs," he said.



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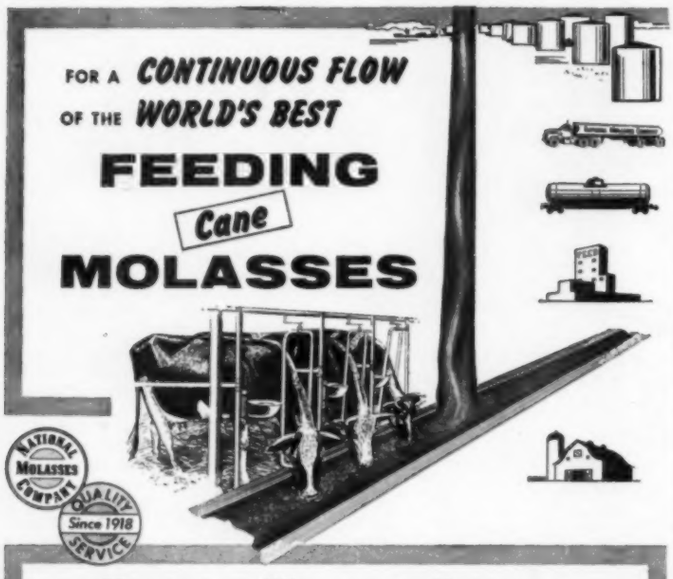

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New York Firm Finds Customers Want Feed in Both Sacks, Bulk

Improved handling and distribution of feed has a lot to do with what the future holds for the independent feed manufacturer in the Northeast. This opinion was voiced recently by C. M. (Gus) Nesbitt who with his father, J. Clark Nesbitt, operates West-Nesbitt, Inc., Oneonta, N.Y.

Located in central New York at the upper reaches of the Susquehanna River, the West-Nesbitt mill is a medium-sized operation in a major dairy farming area. As did most long-established companies, the mill originally produced flour. When the flour mill was dismantled, the company converted entirely to feed, and a good, diversified business was built up. Eventually sales were divided fairly evenly between dairy and poultry customers not only in the immediate Central New York area but also in Connecticut, Massachusetts and Vermont.

"The integration upheaval in the poultry business caused us to make a major decision," Mr. Nesbitt said. "When several national feed companies came into our area with broiler financing programs, we had to decide whether to follow this trend or stick with our long-time policies of service and credit."

Four years ago West-Nesbitt decided to stay out of integrated broiler set-ups. To compensate for poultry customers it lost, the company made a definite effort to win more dairy feed business.

"I can definitely say we saved the company money by not going into broilers," Mr. Nesbitt declared, "but I must admit that some added expenses have come from pushing for new dairy customers. These include such items as establishing a bulk delivery service for qualified dairy feeders."

70% Dairy Feed

Although there are a million broilers being financed in the Oneonta area, West-Nesbitt has kept its hands out of this type of activity and now about 70% of the firm's business is in dairy feed. The rest is divided among various types of poultry feed. Average dairy herds in central New York range from 30 to 80 head, but some major operations go up as high as 500 head.

The Oneonta feed manufacturer expressed personal opinions regarding distribution of feeds in sacks and in bulk. His comments are a result of his experiences in an area where traditionally feeders have been accustomed to buying feed in burlaps.

"I believe the feed industry—if it faces the true facts—should charge a premium for bulk delivery," Mr. Nesbitt said. "Bulk provides convenience, and what other industry offers a discount for a customer convenience factor?"

Diversified Area

In spite of some large commercial integrated operations, central New York remains predominantly a diversified farming area. A few farm flock owners continue in the region and there is some hog feeding activity. A few farms have acreage in cash crops such as corn, but most feed grains have to be shipped in from the West. Average-sized dairy farms dot the valleys around Oneonta and are the mainstay of the area's agriculture.

"The Northeasterner in this type of an agricultural area watches his dollars and cents," Mr. Nesbitt said, "and burlap has always satisfied this demand.

"Some mills may have encouraged bulk deliveries by creating an attractive spread between sacked and bulk quotations and by making possible the purchase of bulk feeder bins on certain amortization programs. Any wide spread between bulk and sacked quotations may cover up the fact that the feed quotation has been ballooned to gain that wide difference, because in actual fact there is little difference between bulk and burlap costs.

"Our experiences have not shown any savings in distributing expenses for bulk as compared with sacked," Mr. Nesbitt declared. "At the mill we figure we save about 25¢ ton on

MILL OWNER—C. M. (Gus) Nesbitt and his father, J. Clark Nesbitt, are owners of the West-Nesbitt company in Oneonta, N.Y. "Gus" is pictured here beside an inventory of sacked feed in the mill.

FEED MILL—This medium-sized feed mill in central New York is located between an important, broad Oneonta, N.Y., street (foreground) and the Delaware & Hudson railroad tracks.

SACKING STATION—All West-Nesbitt feed destined for bags is packed in burlaps at one of two sacking stations. All burlaps are sewn, whether they are earmarked for sacked customers or for a bag-to-bulk operation.

labor, but even this is lost once the truck leaves the mill."

Getting back to sacks, the Oneonta miller made another point regarding the preference for burlaps.

"Dairy feed—a major part of our output—naturally is a bulkier type of feed. A hundred pounds of dairy feed is well-suited to a burlap bag. Our customers are not interested in 50-lb. packages—whether burlaps or otherwise—so 100-lb. units are the accepted rule."

Bag Return Plan

To win new dairy customers and keep the older ones, West-Nesbitt is interested in maintaining costs of feed operations at a profitable level. The return bag program lends itself very well to this principle, according to Mr. Nesbitt.

"Our return bag plan has proved to be a good merchandising program," he declared. "We allow 15¢ a sack for each returned branded burlap and 10¢ for others in good condition, freight prepaid. When branded bags are returned, this provides a $3 ton discount to feeders—an important factor in a price-conscious area."

Increased Bulk Activity

In spite of Mr. Nesbitt's strong leanings toward burlaps, trends toward integration have caused increased bulk activity in his area. A dairy farmer or diversified farm operator looks at a neighbor's big new broiler house and wonders if he can feed from a bulk bin, too. So, in order to increase tonnage and keep satisfied customers, West-Nesbitt has established a bulk distribution system.

There are eight company-owned dealerships in the West-Nesbitt setup. They are operated independently like the other West-Nesbitt dealers not connected with the company. In the beginning, bulk customers are served direct from the mill wherever possible, and when the dealer has a sufficient volume of bulk business a bulk truck is placed in the dealer operation.

"For our needs we have found a moderately-priced dual-purpose truck with attached blower system is best," Mr. Nesbitt said. "We own six of these trucks and they are doing a good job for us.

"Going to bulk has brought new problems into our organization," he added. "One concerns the size of the bulk customer. We've got to make a 5-ton delivery to a customer or we cannot classify him as a bulk user. And we don't encourage a dairyman to go into bulk unless he can take at least one truck-load a month.

"Inside the mill a management problem has to do with the effect of bulk operations on labor and mill inventories. We are operating our mill pretty much on a day-to-day basis as far as bulk is concerned. If we were to inventory bulk feed, it would require an installation of at least 30 bulk bins and so far we have ruled against that idea.

"Instead we have a night shift which mills most of the bulk requirements. These leave the mill every day around 7:30 a.m. The day shift sacks off feed for warehousing or rail shipment from the mill."

Mixer-Blender Operations

All the West-Nesbitt retail stores have mixer-blender operations. These include a hammermill, dry mixer and a molasses blender. The Oneonta mill sacks concentrates in burlaps for retail mixing requirements, and the dealers are engaged in a return used bag program similar to feeders.

From talking with Mr. Nesbitt it was obvious that sacks will continue to fit into the future of West-Nesbitt because of the demand of customers and the volume of dairy feeding in the area. On the other hand, the mill is moving into bulk where a qualified trade requests it. This combination of services is assuring West-Nesbitt a future in a region where one farmer wants his feed in sacks, while another wants it in bulk.

Egg Promotion Needs Some 'Cheesecake,' Cornell Group Told

ITHACA, N.Y.—Eggs and cheesecake go well together.

That's what L. W. "Skip" Cassel says. If he has his way, you'll be seeing more vivacious, bouncing blondes and brunettes urging you to eat eggs.

Mr. Cassel, who directs practical research at Whitmoyer Laboratories in Myerstown, Pa., told 200 poultrymen at Cornell University they need more gimmicks to promote their products.

"More color and flash," he said. "We've got to dramatize this thing. Why don't we make our packages more attractive? Stop the eye and start the sale."

One way of "stopping the eye," he said, would be to follow the lead of other producers and use big pictures of healthy girls accompanied by an inscription showing where they got all that radiance—from eggs, of course. "Get some pretty little girls to sell eggs for us," he suggested.

Mr. Cassel spoke at the second Egg and Poultry Marketing and Merchandising Institute, held at the New York State College of Agriculture, and designed to inform egg men on the latest sales and advertising techniques.

"Let's remember that all of us in the egg producing business are also in the food business," he said. "We must encourage consumer acceptance. We must improve eye appeal. We must improve appetite appeal.

"The egg carton must say 'Buy Me'," he pointed out. "Let's get across the fact that eggs are needed for human health. We know this to be a fact, but we must stress this fact in drama."

Egg Nutritive Value

Describing the nutritive value of eggs, Mr. Cassel called them "nature's richest treasure." He said the chemical compounds in a 60¢ dozen would cost $24.40 at drug store prices.

Mr. Cassel blamed slow egg sales in part on "drab egg cartons that look more like mummy cases. Why do we not have inserts with prominent messages relative to food and health value, as well as novel ways to prepare and serve eggs?"

Mr. Cassel said regaining lost markets is a difficult, tedious task. "Let's stop this loss, and go to work to regain our breakfast outlet," he declared.

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Nutritional Investigations With Turkey Hens—1. Quantitative Requirement for Protein

● L. S. Jensen and J. McGinnis, Washington State University, Poultry Science, Vol. 40, No. 2, pp. 288-290, March, 1961.

ABSTRACT AND COMMENT

The protein requirements for breeding turkeys are very much up in the air and this paper serves to add more fuel to the fire! Actually, it is only within fairly recent times that much work has been done in the general area of protein requirements for breeding turkeys. This is in spite of the fact that the National Research Council tentative recommendations for breeding turkeys are set now (1960) at 15% protein—the same level as recommended way back in 1954 on the basis of entirely unsupported evidence!

The University of Alberta researchers (Clandinin and Robblee, 1959) have reported that there was no advantage in using 17% protein levels over 15% with rations varying in productive energy content from 700 to 800 Calories per pound. Previously, the Ohio group (Carter et al., 1957) had observed that fertility and hatchability were slightly in favor of the higher protein fed birds (16% vs. 18%) with rations containing 800, 900 or 1,000 Calories of productive energy per pound of diet.

Another quite recent report from the Texas workers has demonstrated that possibly one should consider higher protein levels for breeding turkey hens. Atkinson reported at the 1960 meetings of the Poultry Science Assn. that a formula containing 22% total protein promoted the highest level of production. Duplicate groups of Broad Breasted Bronze hens (13 or 14 birds each group) were fed diets containing either 15.7, 18.7, 22.3 or 25.7% protein. A practical type ration containing both animal and vegetable protein feedstuffs, sources of unidentified factors, vitamins, minerals, yellow corn and milo was used. To increase the protein content, a substitution was made between milo and soybean oil meal with all other feed ingredients remaining constant. Thus, in this work no attempt was made to keep the energy levels of the various experimental rations constant—resulting in an unfortunate experimental variable which might tend to cloud the results somewhat in the minds of some. From the results which were obtained, however, it was indicated that maximum production was approximately at the 22% level. This was shown by an increase in production of 5%, with a reduction in body weight loss of approximately 0.4 lb. per bird when this level was fed. In addition, egg weight was increased somewhat, resulting in the production of larger more vigorous poults. Fertility and hatchability was normal and approximately the same for all groups.

The high level of protein (25.7%) in the Texas trials may have been deficient in energy, accounting for a failure of this level to give an improvement in production similar to that achieved with the 22.3% level. Obviously, the relationships between protein and energy will have to be worked out in the future in the opinion of the Texas group before one can determine just exactly what the optimum protein level of turkey breeder hens is. At present, they do not believe that it is wise to advocate such a high level, at least until the experiments have been confirmed and tried under practical field conditions. It is interesting to observe that the workers at both Texas and Cornell have been advocating at least 18% protein level in turkey breeder hen diets during laying for many years.

The current paper from the Washington State University group is a continuation of work investigating the protein requirements of breeding turkey hens first reported by them in 1958. They do not agree with the thesis that turkey breeding hens require high levels of protein when feed is properly formulated. This is because it is well known that a larger relative proportion of the feed consumed by turkeys is used for maintenance than in the case of chickens. Thus, the protein requirement would logically be less for turkeys with

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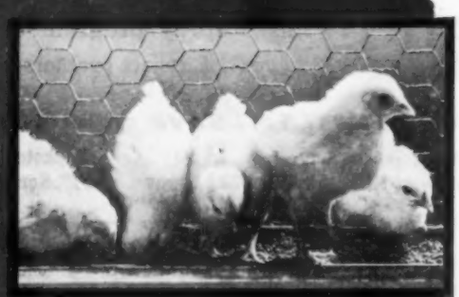

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diets of similar composition, since the protein requirement for maintenance is less than for egg production. With this experimental hypothesis in view, three experiments were conducted by this investigational group.

Experiments 1 and 2—In both of these experiments, Washington White turkeys were used. The hens were in egg production from about Feb. 1 to June 1, and 25 birds per pen were used in the first trial, with 10 per pen in the second.

In experiment 1, three pens were fed a diet containing 16.3% total protein (845 P.E./lb.), and two pens were fed a diet containing 19.7% protein (821 P.E./lb.). In the second trial, four pens were fed a diet containing 15% protein (816 P.E./lb.); three pens, 17.5% protein (786 P.E./lb.), and three pens, 20% protein (756 P.E./lb.). Protein levels were adjusted by changing the level of soybean oil meal in the practical type rations at the expense of grain. Thus, here again, no attempt was made to equalize energy contents of the diets, unfortunately.

In experiment 1, no difference was observed in the rate of egg production and per cent of hatchability of fertile eggs between the two levels of protein used. Per cent fertility was 66.8% for the 16.3% level, while it was 72.6% for the 19.7% protein level. Although this difference was superficially quite large, it was shown not to be significant at the 5% level of probability.

In the second experiment there was again no significant difference in rate of production coupled with no difference in body weight gained or in feed consumption between the various levels of protein. The average per cent fertility was much less for the higher protein levels—being 72.2% for the 15% level; 60.2% for the 17.5%, and only 36.4% for the 20%. No significance was attached to these variations because of the large degree of variability within the treatments. Hatchability of fertile eggs was not significantly different either (at the 5% level of probability), but tended to be lower with the lower protein level.

Experiment 3—Broad Breasted Bronze hens were used in these trials, utilizing 12 pens of 10 hens each. Three pens were fed each of the four experimental diets so formulated as to contain 10, 12, 14 and 16% protein. The diet was the simplified corn-soybean oil meal type with merely additions of vitamins, minerals, etc. No sources of animal protein or of unidentified factors were fed in this experiment, unlike the previous two trials. The diets contained 1,011, 979, 948 and 917 P.E./lb. The birds were kept on the experimental diets for 11 weeks, eight weeks of which the birds were in egg production. One BBB tom was placed in each pen and the toms were rotated from pen to pen weekly.

Analysis of the variance showed that none of the differences among the various criteria were significant at the 5% level. Although average egg weights of the birds fed the 10% protein diet were consistently lower throughout the experiment, this was accounted for largely by one replicate within the treatment.

It is obvious that according to the three experiments conducted by the Washington group, under their conditions, the protein requirement of breeding turkey hens is certainly no more than 15% protein for optimum production. Indeed, when using rations of the simplified corn-soy type and of high energy content (1,000 Cals. P.E./lb.), it may not be higher than 10%. They state as follows: "It is recognized that factors such as increased rate of egg production, warmer climate, smaller sized birds, and increased energy level of the diet may increase the requirement for protein in the ration. However, it is difficult to visualize, under practical conditions, how a change in all of these factors could increase the protein requirement by a margin of 50%. Therefore, it appears that 15% would be adequate for turkey breeders under most conditions."

Just who is right as to the protein requirement of breeding turkey hens will have to await the outcome of more research. It is imperative to point out to the researchers in this area that in my opinion (SHM) it is absolutely necessary for them to use much larger groups in order to get worthwhile results which can be applied to field conditions. Practical turkey men never keep small groups of hens with one tom, etc. (unless pedigree breeding) and it is entirely conceivable that the natural stresses induced in mating among large groups, yard conditions and weather conditions all will influence the protein requirement for practical usage. It has been my personal experience, working with rather large flocks of turkeys, that higher levels of protein are advised than currently recommended by the NRC (15%). If, personally, I had "my pickin's and choosin's" my money would be on the 18% or higher levels recommended by the Texas and Cornell groups. Battle lines will now form to the right and left!

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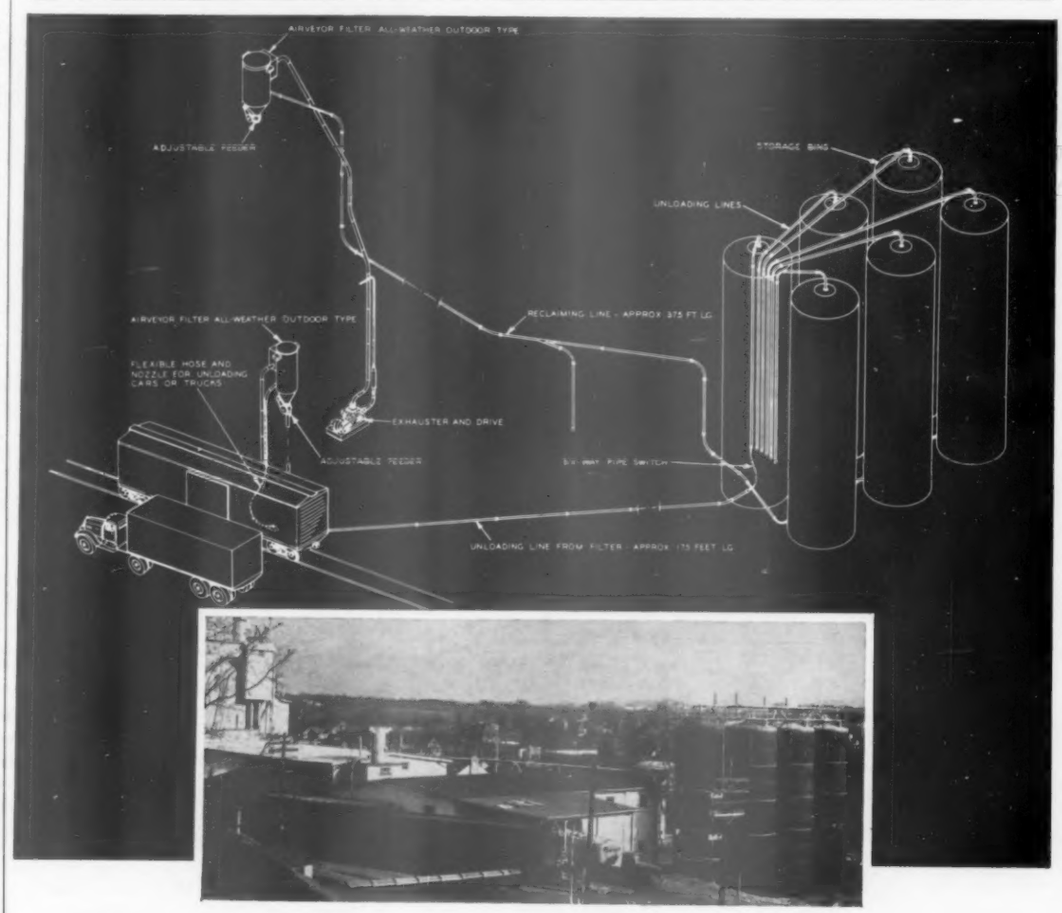
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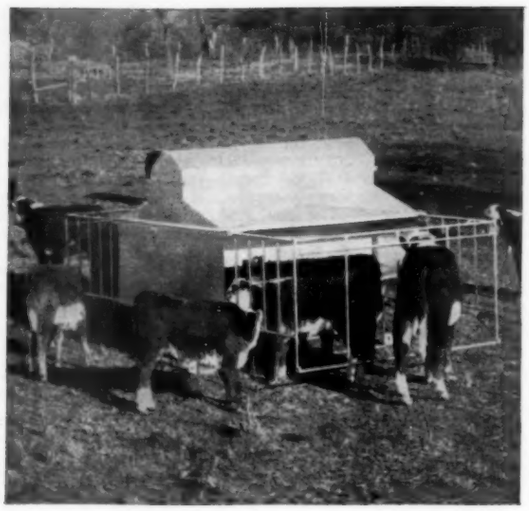

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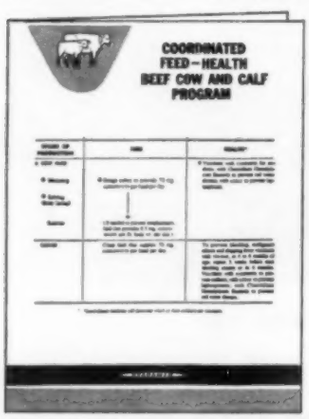

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Your prospective customers are reading the advertisement shown here. It appears in leading cattle papers. 4,922,000 impressions! These customers are also listening to well-known Farm Directors tell the benefits of this Coordinated Feed-Health Program on 40 radio stations throughout the country.

HOW TO RAISE MORE QUALITY CALVES THAT BUYERS PREFER

Increase your chances of a bigger calf crop and growthy market calves. Follow this Coordinated Feed-Health Program with Aureomycin in formula feeds, and Cyanamid vaccines.

Dollar returns from a cow-calf operation depend on a program geared to keep disease out of the herd—*before* calving and all through the calf-growing period.

This means following good management practices. It means proper feeding at all stages of production. It means checking with your veterinarian — regularly. It means maintaining a routine vaccination schedule to meet disease problems in your area. It means seeking the advice of your agricultural college, extension agent or service man. Such a step-by-step program is practical, sound — and it *pays off*.

For instance: many ranchers know that extra returns can be gained by feeding, not just protein, but *fortified* range cubes to wintering animals. Protein *plus* vitamin A plus minerals plus AUREOMYCIN® help cattle resist infection due to winter stresses and come through strong and vigorous.

These same ranchers have learned that creep feeding calves with AUREOMYCIN not only puts on fast gains but builds strong, *growthy* calves.

When you follow the Cyanamid Feed-Health Program described below you take the systematic steps needed to knock out disease — and send more stocker and feeder calves to satisfied buyers. Talk to your feed man. Ask him for the special folder that describes, in detail, the feed-health program for a cow-calf operation, or write direct to: American Cyanamid Company, Agricultural Division, New York 20, N. Y.

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1. How to get more strong, healthy calves. Feed range cubes containing AUREOMYCIN to wintering cows. Cows stay healthier, are better able to drop sturdy calves and support them to weaning. Vaccinate with CARBOZOO® for anthrax; with Clostridium Hemólyticum Bacterin for red water; with LEBAC® for leptospirosis.

2. Better maintenance for wintering calves and yearlings. When you feed range cubes that provide 70 mg. of AUREOMYCIN per head per day, your over-wintering calves resist stresses, stay healthy and put on more growth per dollar invested. Your replacement heifers develop soundly, reach strong, vigorous maturity earlier.

3. Keep stock thriving in spring and summer. Feed a pasture supplement that supplies 70 mg. of AUREOMYCIN to prevent foot rot. Reduce pink-eye problems with AUREOMYCIN Powder or SULMET® Emulsion. If needed to prevent anaplasmosis, provide a feed that supplies 0.5 mg. of AUREOMYCIN per pound of body weight daily.

4. Creep feed Aureomycin for low-cost gains. At four weeks of age, put calves on creep feeds that provide 70 mg. of AUREOMYCIN per head per day. This feed gives calves stamina to resist disease, helps prevent scours and foot rot, protects calves through stresses, assures top calves with extra weight and bloom.

5. Vaccinate to prevent these costly diseases. To prevent blackleg, malignant edema and shipping fever, vaccinate calves with TRI-BAC® at 4 to 6 months of age; with CARBOZOO to prevent anthrax; with LEBAC to prevent leptospirosis; with Clostridium Hemolyticum Bacterin to prevent red water disease.

6. Market more quality calves. When you follow the Cyanamid Feed-Health Program outlined here, step-by-step, your cow-calf operation benefits all the way. You'll send more top-quality animals to market — maintain your reputation as a raiser of fast-starting, good-doing stockers and feeders.

FEED CONTROL COMMENT

By BRUCE POUNDSTONE
Secretary, Association of American Feed Control Officials
Kentucky Agricultural Experiment Station, Lexington

Reminiscence

Whether we think in terms of a fiscal year or a calendar year, the annual convention of the AFMA is the highlight of any year. Another such milestone in the feed industry has just passed.

Measured by this association, this was the 53rd. For some it may have been the 43rd, the 33rd, the 23rd, the 13th, the third, and for some the first.

For me it was the 16th. Compared to many, 16 meetings are not a large number but enough to put one in a reflective mood. A lot has happened in the feed industry these 16 years. And all of it has been talked about at these conventions. The official and unofficial sessions played an important part in what has happened.

As a feed official I have been close to some of these developments. Others I have been remotely concerned with or watched with casual interest.

Urea had just been introduced and firms were "trying" it 16 years ago. Its use today is so common as to go unnoticed. More recently, dehulled soybean meal was experimented with for poultry rations. Today most soybean meal is dehulled as an accepted industry practice. These are but two things that have been done to fit the demands of the industry, an industry that began and throughout a great part of its existence has been largely dependent upon by-products. Products are now tailored to fit the needs of highly specialized feeding programs. Alfalfa meal provides another examination in this category.

Age of Drugs

The age of vitamins has been replaced by the age of drugs and antibiotics, although new vitamins continue to appear. Animal protein factor supplement was a term that emerged in these early meetings but was soon dropped in favor of B_{12}.

Appropriate carriers and diluents and use of dust inhibitors such as mineral oil have been considered as appropriate problems. Lubricants in feed equipment and mechanical aids in pelleting feeds further suggest the wide range of things of importance and problems solved.

Of major concern has been the rise in the use of drugs. This seems all too recent because of the impact of federal legislation, yet it has been slowly gaining momentum throughout these 16 years. S.Q. was "in the wind" at French Lick along with Pluto Water, but the latter isn't in feed yet. Or is it? Sodium sulfate is used in some mineral feeds but like charcoal its value is debated by those who do or do not use these ingredients.

The use of drugs generally is no longer debated. There was a time, early in this period, when some manufacturers were sure "they were not for them" and they would "never use them." Now almost 50 drugs are officially listed and this is by no means all.

A side effect to drugs in feeds is the recent interest on the part of industry in defining terms that until now have been left in the "mystery" class, such as concentrate, ration, balancer, etc. With this impetus more understanding may be possible on these and similar points.

Feed Labeling

The long awaited study of feed labeling and guarantees may be coming to a head. This has been "sniped at" for many years but is now being approached in an organized way.

Feeds have become more specialized during this period and so has the feeding. Integration has contributed its share but with or without integration, large scale broiler, egg, pork, dairy and beef operations are here to stay.

The day-to-day operation of the local feed man is now spiced by custom mixing, the sale of concentrates and the operation of a grain bank.

Through all of this the AFMA has stood and stands as the intercessor and partner of the small and large producer alike. This has been supported by a progressive board of directors and backed by an outstanding membership. With a well managed central office, its activities expanding to meet the needs of the times, the names of Field, Berger and Glennon stand out as champions of progress. No other industry can lay claim to a more stable growth throughout this period.

This organization and the parallel organization of feed control officials has made possible working relationships that are the envy of all. The fine spirit of helpfulness and sharing that exists among the members of this industry is undoubtedly due in large part to the long history of persons working together within AFMA.

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Dogs like it! Nature seems to guide them to dog food enriched with Seagram Solubles for that sleek looking coat — a sign of a good diet and a healthy dog. This palatable, highly digestible supplement contains all of the important proteins, minerals and B-vitamins plus GFF*— vital growth factors — so important in a dog's life. No supplement — within this price range — has all of these natural, nutritional benefits. You'll put more efficiency with greater economy in your dog feeds by including Seagram Solubles!

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One female large roundworm lays up to 1,400,000 eggs a day...*
One female nodular worm lays 5 to 10 thousand eggs...
One female whipworm lays up to 5,000 eggs per day.

*KELLEY, GEORGE W., PH.D., U. OF NEBR. (VETERINARY MEDICINE, VOL. LI, NO. 3, P. 97, MARCH 1956)

Swine worms plant more eggs per acre than you could drill wheat. But, that's only part of the problem. Billions of those invisible eggs can live in the soil up to seven years...just waiting for the chance to grow up in your hogs (on your feed) and plant still another bumper crop of eggs!

Hygromix in the feed is the only worm control method on the market that helps strangle worm loss at the source. Hygromix kills adult worms and prevents them from laying new eggs. The same continuous killing action hits baby worms before they can grow to egg-laying maturity. Why fight the problem every now and then when you can control it every day with Hygromix? Try it!

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Outside Selling Helps Build Business for Alabama Firm

By Robert H. Brown
Feedstuffs Special Writer

So it doesn't pay to maintain outside selling efforts, you say?

Well, don't tell it to the folks around Reddoch Farm Supply Co. in Montgomery, Ala. They'll never believe you.

They'll tell you that back before 1946 there was no Reddoch Farm Supply Co. as it is known today.

They'll tell you the story of how the company operated under the hat, so to speak, of John Reddoch, who today heads a company that maintains a downtown corner location, just a few blocks from the center of everything in the capital of Alabama. Today, under one roof, he sells everything from custom mixed feed to plastic water pipe for farm use.

"When we started in business we had no store. Actually, the business was started by accident. I was selling feed to dairies, farmers and others back in those days, operating from the car, taking orders and making deliveries later. There was no warehouse, no nothing. We sold a load of feed, went to the feed company's warehouse, picked it up and delivered it," he said.

Mr. Reddoch lived in his automobile in those days. He got to know everyone that bought feed. The first thing he knew he was booking business in such a volume that the firm grew rapidly.

Outside Selling

Today, three men are still on the outside a great part of their time. They're out selling because Mr. Reddoch learned back in those early days the value of outside contacts.

"We take our time about getting out and calling on the customers," Mr. Reddoch said, indicating the three men who work in the downtown spot. "One of us will be out just about every day. If we depended on the walk-in trade here, we'd be minus some of the business we're getting."

This statement was made by Mr. Reddoch even though the location does a lot of walk-in business because of ample parking facilities on the sides and to the rear of the building.

"We're located only three blocks from the business district, the banks and the wholesale houses. People drop in because of the parking facilities and because we have in stock just about everything they will need on a farm," he said, and then he added:

"If we haven't got it, we'll get it if they'll give us a few minutes."

One thing outside selling taught him, back in those days before the store was opened, was that if a customer wanted something, get it for him.

"Back in the days when we were selling exclusively on the outside, they'd mention something they needed, we would take their orders and drop by a wholesale house and pick it up for them. We learned to never say no back in those days," he added.

Feed Business

Feed plays a most important part in the operation. Located at the rear is a custom mixing plant where feeds are prepared. A combination bulk-sack delivery truck is used for deliveries, for when dairies and cattle farmers expressed an interest in bulk deliveries, Mr. Reddoch made the addition.

"I'd like to have one more of these trucks, and may add it sometime in the future," he said.

The mill uses a Jay Bee mixer in a section of the building adjoining a truck loading platform, where it is possible to move the feed onto trucks with a minimum of effort. If the bulk truck facilities are to be used, an auger conveyor shuffles the feed into the vehicle.

In order to increase efficiency, and to free the bulk truck for delivery work, Mr. Reddoch recently added an air system (Ripco) to unload hopper cars of grain from the railroad siding. At one time, the bulk truck was used for this work by placing it near the hopper car, connecting the auger to the car, and then using another auger from the truck to the Butler bins.

"We needed the delivery truck at just the time the cars came in for unloading and that tied up our operation. You can't make a dairy wait for deliveries when it is running low," he said.

What's the use of going out soliciting business with the promise of prompt delivery, if delivery facilities are not available?

Both grain and pellets are unloaded with this equipment recently added. They are pulled 45 ft. from the car along the ground to the air system, which is located under the tanks for weather protection. Then, using the air lift, the grain and pellets are lifted 45 ft. to the top of the bin, making a total of 90 ft.

When grain is brought to the mill by truck, the flexible conveyors are also used for this purpose, he said.

One man is able to handle this unloading and do other things around the mill, too, but most important is the fact that customers are not kept waiting for the delivery truck to become available.

The mill produces chicken, dairy, and calf as well as hog feed in bulk, but Mr. Reddoch still has a great deal of confidence in sack feed business.

Bagged Feed Demand

"There are still a lot of small feeders in our area that buy feed in sacks. They are urban people who have just a few head of cattle, some hogs and

MATERIAL HANDLING SYSTEM— The new air system shown below the bins in this photo frees a bulk delivery truck to serve customers of the Reddoch Farm Supply Co. in Montgomery, Ala. Pellets and grain may be drawn a distance of 45 ft. from hopper railroad car to the vacuum system, then by air to the top of the bins for an additional 45 ft., making a total movement of 90 ft. The air system is located beneath the Butler bins for weather protection.

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"I'll bet that feed salesman's still sitting in the lobby waiting for that 10 o'clock appointment!"

simply do not find it practical to buy in bulk," he said.

Also there are still a lot of large users who want it bagged.

"We're selling a diversified market in this area. It includes everything from dairy cattle to poultry. The feed business is competitive and it takes outside selling to keep the orders coming in. People like the contacts with our men, and, as I said, if we don't have what they want we try to get it for them," he continued.

For instance, when plastic pipe came in demand for extending water systems on farms, the company had some requests for it. It was secured. Today, yards of the pipe are kept in stock on the sales floor.

Saddles also are in demand in the Montgomery area for this is cattle country, and ranches dot the surroundings. Cattlemen use a lot of saddles in looking after their livestock.

Customers started asking for saddles and the next thing Mr. Reddoch knew they were in the saddle business, too. All because the customers asked for them.

Hungry for Information

A survey made recently showed one thing the farmers expected most from their feedman, or supplier, and that was information. One of the best ways to pass out the desired information is to see the problem first hand on the farm, which is another reason Mr. Reddoch likes to have someone on the outside.

Anyway, the tremendously big building standing on the street corner in downtown Montgomery is a pretty good example of the business outside selling built.

Ground Limestone, Urea Speed Gains

EAST LANSING, MICH.—Adding small amounts of ground limestone and urea to corn silage can speed gains of feedlot cattle, according to Dr. Hugh E. Henderson, extension beef cattle specialist at Michigan State University here.

He said that heifers fed treated corn silage in experiments last year at the Ohio State Agricultural Experiment Station gained 11% faster than similar heifers fed untreated silage.

Steers fed high-moisture ground ear corn with only limestone added gained 14% faster than similar steers fed untreated high-moisture ground ear corn, Dr. Henderson reports.

"Cattle researchers believe that the added gains from ground limestone and urea additions come from an increase in organic acid content of the feeds," says the Michigan State University specialist. "The good result of these faster gains is a lower feed cost per 100 lb. of gain. This more than pays for the cost of the limestone and urea added.

"In the experimental work, the limestone and urea were added to the corn silage by sprinkling the materials on top of loader mixed with the silage as it was blown into the silo.

"Ear corn was picked for the high-moisture corn experiment when the kernel moisture was about 36%. The ear corn was ground with a burr mill and blown into a concrete stave silo.

"The limestone was added by sprinkling it over the loads of ground ear corn, and extra water was added through a hose at the blower."

USDA Says Iron In Wash Water Causes Egg Spoilage

WASHINGTON—The rate and extent of egg spoilage are increased by washing eggs in water that contains a high concentration of iron—5 to 10 parts per million in solution—according to the U.S. Department of Agriculture.

This discovery by scientists of USDA's Agricultural Research Service helps solve a mystery that has plagued egg producers for years—why washing seems to increase spoilage in some instances, but not in others.

Research shows that wash water containing excess iron carries this iron through the shell and shell membrane into the inner egg tissue. Here, iron reverses the protective action of an egg's conalbumin—the iron-binding protein in egg white—and accelerates spoilage.

Earlier studies showed that conalbumin normally protects eggs from the Pseudomonas family of bacteria —prevalent cause of spoilage. Conalbumin chemically binds normal amounts of naturally occurring iron, making it unavailable to these microorganisms, which need iron for growth.

The detrimental effect of excess iron was found in laboratory studies by Dr. John A. Garibaldi, chemist, and Henry G. Bayne, bacteriologist, at USDA's Western Utilization Research Laboratory, Albany, Cal. Dr. Garibaldi had previously reported the importance of conalbumin in protecting eggs against spoilage.

Field tests at several egg farms near Albany confirmed the laboratory findings. At one farm, spoilage was slight—1% or less—in eggs washed in well water containing less than one part per million of soluble iron. At another farm, however, spoilage mounted to 6% a few weeks after eggs were washed in well water containing 5 to 10 parts per million of iron.

Bacteria used in the tests—Pseudomonas fluorescens and Pseudomonas ovalis—cause spoilage known as fluorescent sour (commonly called pseudomonas rot) in shell eggs. This common type of spoilage can be detected by candling eggs with ultraviolet lamps, which reveal the bright, blue-green fluorescent pigments excreted by the bacteria during growth.

Scientists have known for many years that washing eggs increased risk of spoilage. But, lacking basic knowledge of the cause and control of bacterial growth in eggs, they have not agreed on how to avoid spoilage. Common practice on most egg farms is to machine-wash all eggs—not just dirty ones—to eliminate time-consuming sorting.

LIQUID PROPORTIONER — The "Auto-Medic," a device for automatically placing medication in the drinking water of poultry and livestock in a predetermined proportion, is shown here. Manufactured by Mattox & Moore, Inc., the "Auto-Medic" will be distributed nationally by the Anderson Box Co. of Indianapolis, Ind.

Auto-Medic Franchise To Anderson Box Co.

INDIANAPOLIS, IND.—Anderson Box Co., Indianapolis, has been appointed exclusive national distributor for the "Auto-Medic" liquid proportioner by Mattox & Moore, Inc.

The "Auto-Medic" is a device for automatically placing medication in the drinking water of poultry and livestock in a predetermined proportion.

The proportioner is activated by the water pressure in the line. The amount of medication in the water adjusts automatically and proportionately to the flow of water. There are no pumps, valves or electricity, officials noted.

Anderson Box Co. will distribute the "Auto-Medic" through its national sales organization and its network of branch warehouses.

Extend Aid Program

WASHINGTON—The U.S. Department of Agriculture has announced that, because of continued shortage of feed due to drouth last year, the emergency livestock feed sales program has been extended through June 30 for eligible producers in 25 counties in Utah, previously designated under the program. The cutoff date for assistaance had been April 30.

Under this program, producers in designated emergency areas, such as the 25 Utah counties, may buy government-owned feed grains at current support prices to provide feed for livestock.

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Progress Reported In Processing of Beta-Carotene

WASHINGTON—Improvements in the processing of beta-carotene, a source of vitamin A for livestock and poultry, have been made through a new fermentation technique developed by U.S. Department of Agriculture scientists, USDA announced.

This technique has more than tripled beta-carotene yields—from a 1957 rate (in USDA research) of 0.5% of total solids produced to 1.7%. Also, USDA said, the beta-carotene contained in the solids obtained by the new technique has an improved storage life and can be added to livestock and poultry feeds as a source of vitamin A.

Major changes in the process, developed at USDA's Northern Utilization Laboratory, Peoria, Ill., include using more efficient strains of a carotene-producing mold and adding a deodorized kerosene to the nutrient solution, or medium, on which the mold grows.

"The newest beta-carotene medium contains acid-hydrolyzed corn and soybean meal, thiamine hydrochloride, animal fat and vegetable oil, detergent, beta-ionone and deodorized kerosene," USDA said. "Thiamine hydrochloride is a form of vitamin B_1, which the molds require. The kerosene is primarily responsible for the yield increase."

The influence of kerosene hydrocarbons on beta-carotene production was reported at the recent 61st annual meeting of the American Society for Microbiology in Chicago by Alex Ciegler, George E. N. Nelson and Harlow H. Hall of the Agricultural Research Service's Northern Utilization Research and Development Division, Peoria, Ill.

"Northern Division research, related to that reported in Chicago, showed how to obtain sixfold increase in the practical storage life of fermentation - produced beta - carotene," USDA said. "In one method Dr. Ciegler added a preservative to the fermentation medium or to the dried solids. In another, the dried solids were suspended in vegetable oil for protection from oxidation.

"Carotene," the department said, "occurs naturally as an orange-yellow pigment in plant and animal tissue. It is extracted from plant sources or synthesized chemically and added to poultry and livestock feeds as a source of pigment and vitamin A, required by all animals. It is converted to the vitamin in the animal liver. Carotene is also used in pharmaceuticals and to color and enrich foods.

"A high-potency carotene supplement, low in fiber, is needed in formulating mixed feeds—especially for poultry," USDA said. "Scientists at the Northern Division are conducting research to develop an industrially practical process that would use the carotene-producing abilities of certain molds.

"Their first success came in 1957 with the practical application of a technique for mating microorganisms. Ralph F. Anderson and C. W. Hesseltine found that certain strains of the mold Blakeslea trispora can be grown together to yield beta-carotene in proportions of dry matter that exceed the proportion in ordinary plant materials. The mating phenomenon Dr. Anderson applied had been reported earlier by the West Virginia Agricultural Experiment Station."

In the Northern Division process, a grain-based medium is fermented by the mated molds in aerated fermentors, USDA explained. Solids that contain carotene are harvested by filtration and dried.

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Bryant Coarse Crusher can be mounted on sheller hopper and driven by separate motor or from sheller shaft. Extra long shaft is not required.

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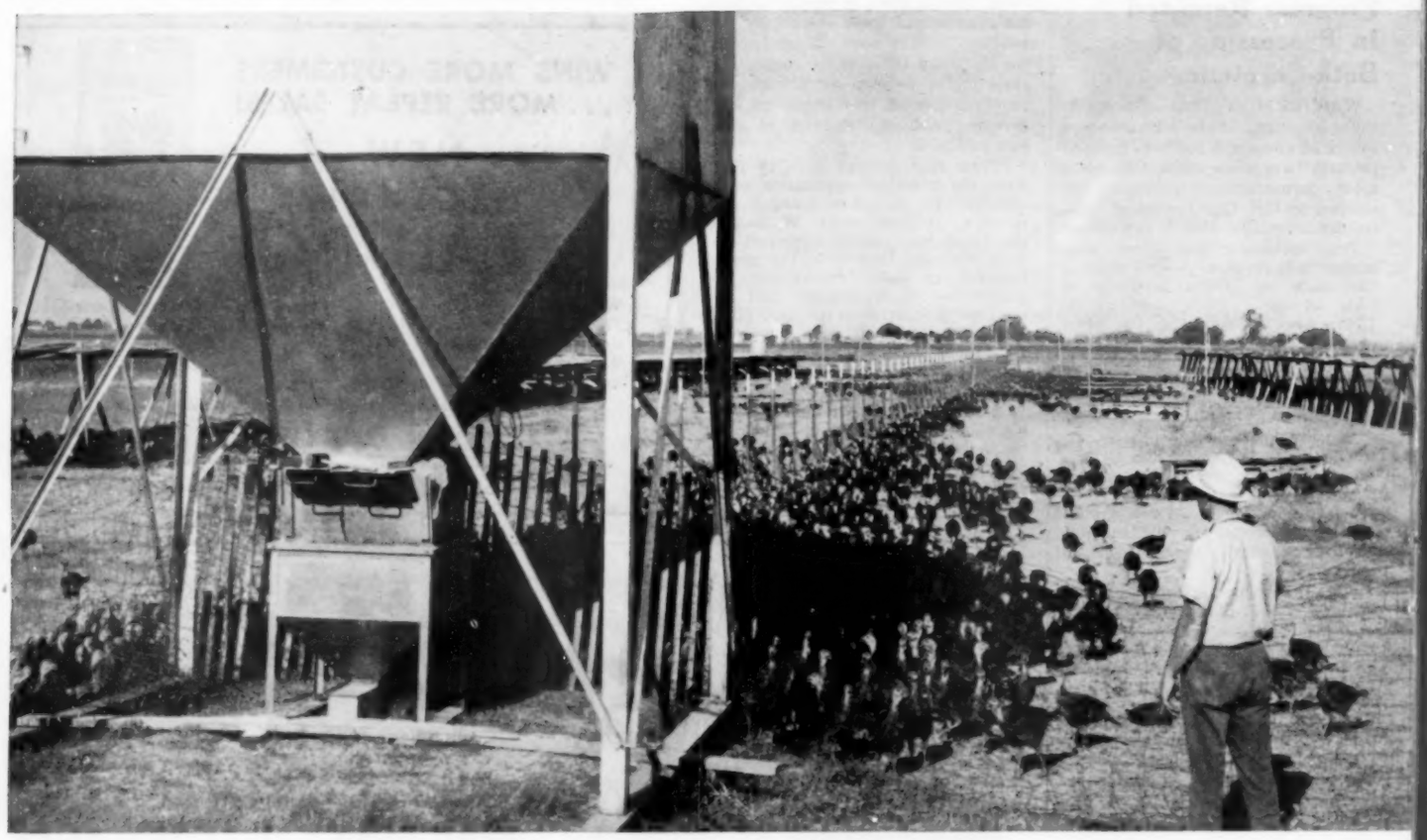

Elwood Swanson, Turlock, Calif., feeds nf-180 to 150,000 market turkeys with "excellent results."

Protect your interest in turkey contracts from start to finish

REPORT ON nf-180 PROTECTIVE FEEDING FOR MEAT BIRDS

If you're financing turkeys, you have an important stake in those birds until they reach the processor. And many things can threaten your interest. Subclinical infections, for example, can be a constant drag on performance. And there is always the chance of a disease outbreak. If a disease outbreak should occur, your customer is in for serious losses from stunting and reduced feed efficiency . . . even if he manages to treat in time to hold down mortality. With nf-180 protective feeding, you protect your customers (and your financial interest) against severe losses. This report tells how.

KEITH LANGMO, a Paynesville, Minn., feed dealer (he's pictured on the opposite page) says: "Without any question, nf-180 is the best single drug for turkeys . . . and it saves a few ulcers for me, too."

The reason nf-180 saves ulcers for Keith Langmo is because it *protects his investment in financing turkeys.* It reduces his risk . . . increases his peace-of-mind. As Keith Langmo says, "When you get disease in a house, you run the risk of it spreading throughout the whole flock. Any time you can do anything within economic reality to reduce that disease problem, you're doing something real good. Many times we'd take a real licking if we didn't have it."

In addition to reducing risk, nf-180 protective feeding makes for happy customers by *improving feed performance.* It reduces early mortality, gets birds off to a faster start, improves feed efficiency.

The principle behind nf-180 protective feeding is this: nf-180 prevents and controls an extremely wide range of turkey diseases — more turkey diseases, in fact, than any other drug. It protects against typhoid, pullorum, paracolon, paratyphoid, C.R.D., blue comb, hexamitiasis, synovitis, ulcerative enteritis and blackhead.

In addition, nf-180 cleans out the intestinal tract . . . clears up the many hidden stresses and subclinical infections that hold everyday feed performance down. It prevents constant disease drag from building up and triggering serious troubles. In most cases, a regular nf-180 protective feeding program costs your customers far less than treating troubles as they occur. You'll benefit, too, with fewer service calls and fewer complaints.

Here's what to do: Add nf-180 to your starting mash at a rate to provide 100 grams furazolidone per ton of total ration. Recommend this nf-180 fortified ration throughout the starting period — including the first week on range.

Then, it is equally important to see that nf-180 protection is continued during the growing-finishing period . . . because if you are financing turkeys, that's when you have considerable money tied up in feed.

During this period, though, we don't feel we can make a specific feeding recommendation covering all situations. The need for nf-180 protection varies from farm to farm and area to area. You can recommend an nf-180 protective program to fit the individual feeder, based on local past history and disease problems. Here are 3 programs that are used successfully by many feed men.

• Where blackhead, hexamitiasis, paracolon, and paratyphoid are problems, a 2-lb-per-ton level of nf-180 (100 grams furazolidone) fed continuously gives dependable results.

• Where blackhead, hexamitiasis, paracolon and paratyphoid are not likely problems, a 1-lb. level of nf-180 (50 grams furazolidone) protects against stress setbacks and a wide range of other diseases.

• Where disease is not a constant threat, growers report good results using the nf-180 week-a-month plan. A ration containing 2 lbs. of nf-180 (100 grams furazolidone) — fed 1 week out of 4 — cleans up birds, fights stresses, knocks out disease organisms before they can build up and cause trouble.

When your servicemen are called out to farms to check on flock troubles, nf-180 should be the first drug they turn to if they suspect something is wrong. nf-180's wide-range effectiveness stands the best chance of stopping the trouble. Even when the major problem is diagnosed, it is important to remember that diseases seldom attack singly. nf-180 — in addition to stopping the primary trouble — is also effective against a host of secondary problems.

The best way to predict how your customers will like nf-180 protective feeding is

John Ash's son, Bob, was this year's Reserve Sweepstakes winner at the National Dressed Turkey show.

to see what present users say about it. In these excerpts from tape-recorded interviews, nf-180 users answer some common questions about protective feeding:

How do you use nf-180 for best results?

WALTER SCHWEDLER, Portland, Oregon, hatcheryman, uses the following nf-180 program for the 65,000 birds he grows out himself . . . and also recommends it to his poult customers: "The first 10 days, we start poults on a prestarter containing a 2-lb. level of nf-180. Then we go to a 1-lb. level through the rest of the 7 to 8-week starter period, making sure we leave the nf-180 in until the birds settle down on range. After that, we use a periodic once-a-month feeding."

JOHN ASH, Ashkum, Ill., is a 25-year veteran in the turkey business. He says: "It is absolutely essential that our starter feed contain nf-180. We feed the 2-lb. level continuously for the first 8 weeks. After that, we feel you can delete it for short periods if you're careful to observe the birds and conditions. If you see trouble approaching, get nf-180 back in there again."

Does nf-180 live up to its claims?

ELWOOD SWANSON, owner of Westlock Turkey Breeding Farms, Turlock, Calif., grows out 150,000 turkeys a year in addition to raising 12,000 to 16,000 breeders. He replies: "nf-180 works! It must work, because we're getting excellent turkeys. I feel nf-180 is doing a real swell job for us."

DON AND JERRY WHARTON, partners in a Sacramento, Calif., turkey hatchery, recall: "One of your representatives told us about nf-180. He said it was something that was going to help all of us. At the time, we thought it was just salesmen's enthusiasm. But the following year we tried it on a small scale. It was so effective we now recommend nf-180 to all our customers. I'd say 90% of the 1,200,000 poults we put out are started on nf-180."

What specific benefits have you noticed from nf-180?

KEITH LANGMO, who you met on the opposite page, says: "nf-180 keeps birds in condition. It helps them build up resistance. It makes the bird stronger. Keeps the bird healthy. Keeps the intestinal walls in condition so the birds can absorb the nutrients."

How does nf-180 compare with other drugs?

PAUL BANDEL, Rochester, Minn., has raised 4,000-5,000 turkeys a year for 31 years. He says: "There are many good drugs, but I would definitely say nf-180 is one of the very top products put out to help turkeys."

KEITH LANGMO adds: "I would say that, without any question, nf-180 is the best single drug for turkeys. If I had to pick the one drug that did the most for our operation, I'd pick nf-180."

Hatcherymen Don and Jerry Wharton report 90% of their customers start their poults on nf-180.

How do you feel about the cost of nf-180?

DON AND JERRY WHARTON: "Why, compared to what a fella could lose, the cost of nf-180 is nil. It's just nothing!"

Keith Langmo says: "nf-180 keeps the birds in condition . . . and it saves a few ulcers for me, too."

PAUL BANDEL agrees. He says: "Some people ask, 'Why do you use nf-180? That costs money.' Well, I say, 'nf-180 has paid off in dollars and cents.' I have to foot the bills, and I'm convinced nf-180 does pay and pay good!"

How would you like to raise turkeys without nf-180?

KEITH LANGMO: "I wouldn't like to. I imagine I could, but it would make our job more difficult. nf-180 is one of the things that make your job a little easier."

PAUL BANDEL: "I'd hate to raise turkeys without it! I feel more relaxed . . . less helpless with nf-180 in my feed."

Get in touch with your Hess & Clark salesman. He can answer any questions you may have . . . and can get you started on an nf-180 protective feeding program.

These informative selling aids help acquaint customers with nf-180 protective feeding

By starting an nf-180 protective feeding program now, you'll profit from powerful selling support. The 4-page folder shown here is currently running as an insert in leading turkey magazines. It also makes an informative handout piece for your store. The nf-180 Profit Pointer dial enables you and your customers to quickly dial the correct nf-180 level for treating specific diseases.

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Daffin Announces Sales Appointments

LANCASTER, PA.—Four new district sales managers have been appointed by Daffin Mfg. Co., Lancaster, Pa., division of Daffin Corp.

The appointments, part of the firm's expanded sales operations, were announced as follows by G. E. Sprackling, director of Feedmobile marketing:

John S. Shirk, Lititz, Pa., formerly Daffin marketing administrative manager, has been appointed district manager of Feedmobile sales in northeastern Ohio, northern and eastern Pennsylvania, northern New Jersey and New York state. A graduate of Princeton University, Mr. Shirk had been associated with American Airlines for 11 years in sales and sales management posts. He joined Daffin in 1956.

Lamar H. Moree, Ashburn, Ga., has been named district manager in Louisiana, Mississippi, Alabama, southern Georgia and Florida. A former Daffin mobile sales representative in Georgia and a practicing veterinarian, Dr. Moree also owned and operated a Daffin mobile feed processing service. He is a veterinary graduate of Alabama Polytechnic Institute. He joined the Daffin firm in 1958.

H. Sanford Wood, Tulsa, Okla., is now district manager in the Omaha district (eastern Colorado, western Kansas, Nebraska and western Iowa). Mr. Wood attended Muskogee (Okla.) Junior College and was formerly a district manager for the Sonotone Corp of New York in the Tulsa area. He joined Daffin as a sales representative in 1958.

John B. Coyne, Dallas, Texas, is district manager in the Texas-Oklahoma area. He has been with the firm as a representative since 1959. Mr. Coyne formerly was in charge of sales promotion for detergents for Lever Bros. and Monsanto Chemical Co., and had previously supervised administration of Army intelligence tests for the U.S. Civil Service.

Fuller Co. Appointment

CATASAUQUA, PA.—The appointment of R. Kirk Booker as sales representative was announced here by Fuller Co.

Mr. Booker will be primarily concerned with sales and service of Fuller pneumatic conveying and process equipment in the southern division's Houston office, and will report to Joseph R. Perry, branch manager.

Nitrate, Nitrite Research Underway

URBANA, ILL.—University of Illinois beef cattle scientists are conducting basic research to determine what connection vitamin A deficiency may have to feed high in nitrates and nitrites.

Dr. A. L. Neumann, head of the beef cattle section, explains that vitamin A deficiencies are occurring in feeder cattle even though their rations provide adequate amounts of carotene. Dr. Neumann says he feels nitrites may be slowing up the rate of conversion of carotene into vitamin A and causing the deficiencies.

To describe this relationship, Dr. Neumann explains that thick planting rates and heavy nitrogen fertilization of corn increase the amount of nitrate in the corn plant. When cattle eat corn silage high in nitrates, their bodies absorb the nitrate, he said. Then the nitrates change to nitrites within the body.

These nitrites have the ability to destroy carotene in the blood stream. "Therefore it is possible that cattle receiving adequate supplies of carotene can develop vitamin A-deficiency symptoms if they are also receiving too much nitrate in their feed," Dr. Neumann pointed out.

To learn more about this angle, Dr. Neumann and his co-worker, G. F. Smith, are currently feeding steers corn silage made last fall from four different fields: Field 1—heavy nitrogen fertilization — thick planting rate; field 2—normal nitrogen—thick planting rate; field 3—heavy nitrogen—normal planting rate, and field 4—normal nitrogen—normal planting rate.

Dr. Neumann explains that thick planting rates increased the amount of nitrates in the silage about as much as heavy fertilization did.

Oregon Group Names Committees, Chairmen

PORTLAND, ORE. — Permanent committees to serve the 1961-62 term were announced here by James McDowell, president, Oregon Feed & Seed Dealers Assn. Those appointed will continue in service until the annual association meeting slated for mid-March, 1962.

Committees and chairman for each include: Feed advisory, Dwight Howell; legislative, Ed Wyss; membership, Rod Wissler; garden supply trade show, Wes Hamilton; animal nutrition conference, William Eggimann; scholarship, Fenn Emerson; group insurance, Stan Cellers; state industrial insurance, Hal Hardin; fertilizer, Gene Kokko; ag-chem, Lee Sturges; transportation, Dick Crabtree; Oregon Seed Council, Glen Fravel; warehouse practices, Bob Cole; legislative, Barney Kirsch; seed certification and seed laboratory, department of agriculture, commodity commissions and association, Stan Cellers, and seed convention, R. R. Rodgers.

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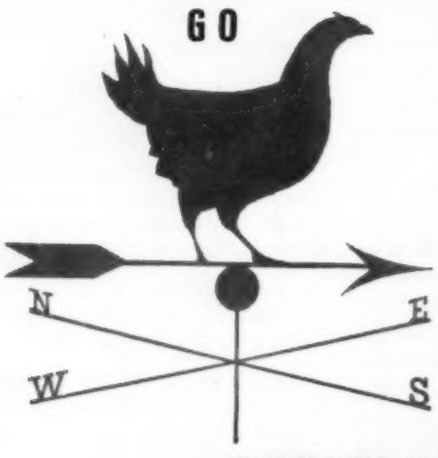

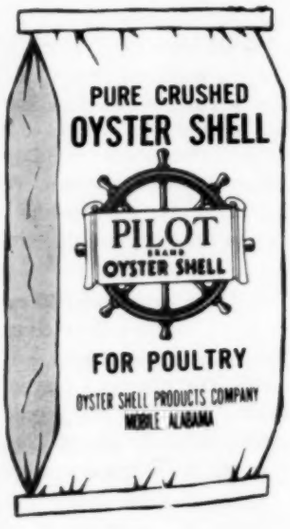

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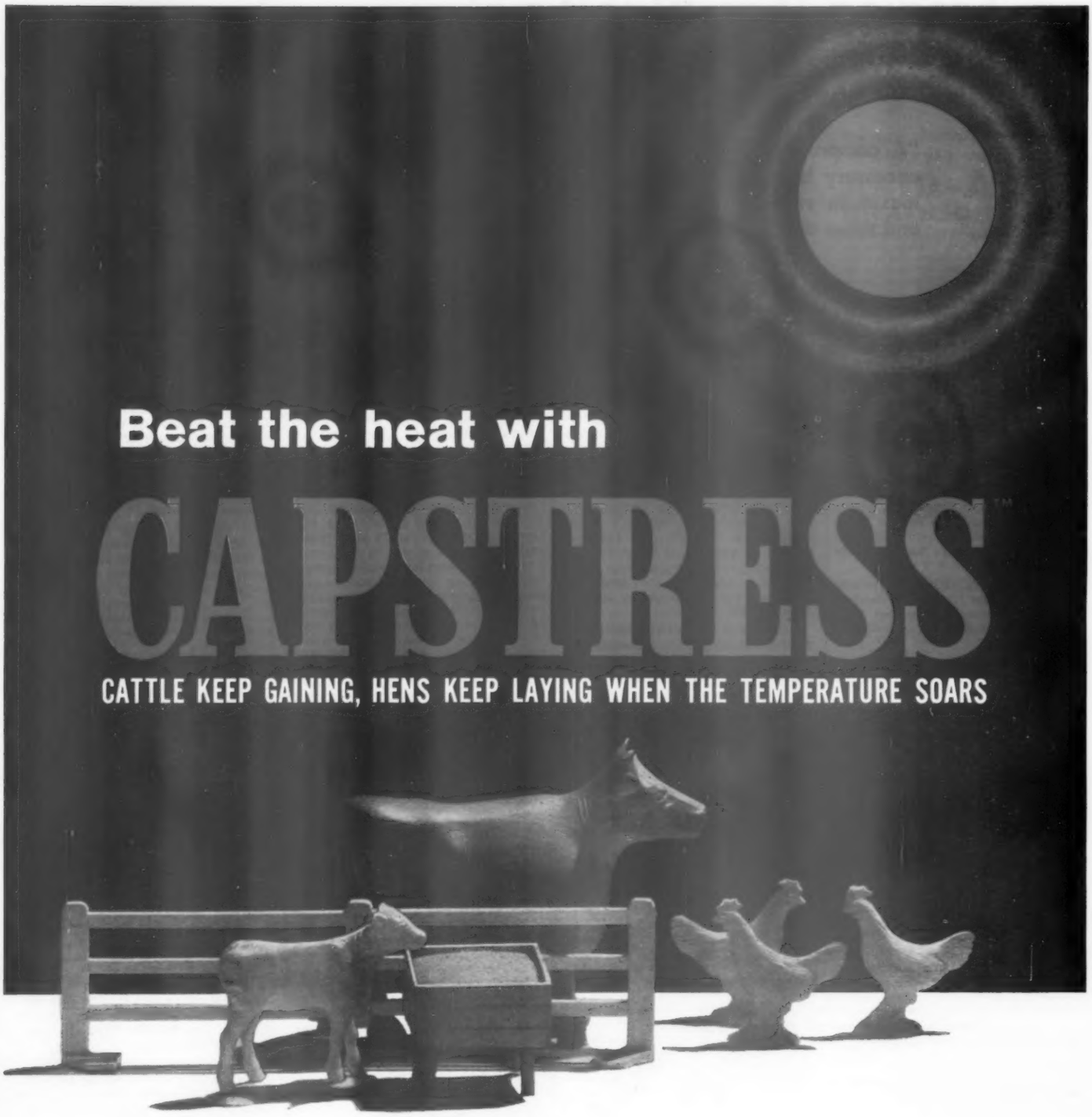

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Feeding Pigs With Emphasis On Production of Quality Carcasses

"A compromise in ration formulation may be necessary between finishing rations that give maximum rate of gain and feed efficiency and those that give maximum carcass quality."

By Dr. J. P. Bowland
University of Alberta

Carcass characteristics in pigs are related to the breeding, feeding and management program. In Canada, rail grading of hog carcasses is practiced and there is a considerable price spread between grade A, B and C carcasses. Including the $3 premium on a grade A carcass, a 150 lb. carcass of this grade will bring $4.50 more than a grade B carcass or $7.50 more than a grade C carcass of equivalent weight. It is evident that where a differential return such as this exists, the production of pigs low in backfat, of reasonable length and in a desirable weight range has a definite monetary incentive.

In experiments at the University of Alberta the following feeding methods are among those that have been used in an attempt to influence carcass quality:

(1) Feeding diluted or low energy rations in the finishing period from approximately 110 to 200 lb. liveweight.

(2) Restriction of feed intake in the finishing period.

(3) Use of varying energy-protein ratios in the growing and finishing periods.

(4) Use of feed additives.

As the type of pig being produced has a major bearing on carcass quality, studies have been in progress for several years to compare breeds, strains and crosses in their ability to tolerate different formulations in finishing rations and to study genotypic, nutritional and environmental interactions that may exist.

In carcass studies at the University of Alberta data are obtained on shoulder and backfat thickness, area of loin muscle, length, belly grade, carcass weight, dressing percentage and other related characteristics. As the weight at which a pig is marketed is under the control of the producer, no reference will be made in this report to the influence of carcass weight on fatness and other carcass measurements except to indicate that the Canadian grading system has a weight range of 135 to 170 lb. for grade A carcasses (warm weight, head on). Length is a highly heritable character and therefore easily changed by selection and breeding in pigs. In addition, it is probably of much less importance than lean to fat ratios in carcasses so that length of carcasses will be given no further consideration.

DILUTION OF FINISHING RATIONS—The objective of feeding low energy or diluted rations to finishing pigs is to reduce the energy intake, hence the rate of gain, and to produce carcasses with less fat in relation to lean. The theory behind such a practice is that a pig must first meet its maintenance requirements, followed by gains in muscle tissue with the fattening process being dependent up surpluses of energy. As a pig has a strongly inherited tendency to fatten it probably does not follow this pattern exactly.

It is also apparent that for such a system to work a pig must be limited in its ability to consume feed, i.e. it cannot increase feed intake to compensate for the reduced energy level of the ration. The data in Table 1 demonstrate that finishing pigs generally do not eat enough of a low energy ration to equalize energy intake obtained from a high energy ration so that the dilution of finishing rations will actually reduce energy intake. This statement does not apply to all types of diluents and it does not apply if the rations are pelleted.

As efficiency of feed utilization is normally reduced by low energy rations, the use of diluted rations to improve the quality of carcasses can be justified only if the diluent is sufficiently cheap so as not in increase the over-all cost of production. On the basis of several years' trials with several types of diluents in finishing rations, the use of 25 to 35% oats, and in some cases high-quality ground hay, seem to be the most useful methods of improving carcass quality without increasing costs too severely. In areas where ground corn cobs or some other cheap diluent is available, they might serve a similar purpose. With the relatively low cost of barley and wheat in western Canada, extensive dilution of rations cannot be generally recommended.

RESTRICTION OF FEED INTAKE—Restriction of feed intake in the finishing period has the same objective as dilution of finishing rations, namely, to lower energy intake and thus to improve the lean to fat ratio in the pig carcass. There is one major difference between the two procedures. Low energy finishing rations almost always result in lowered efficiency of feed conversion whereas limited restriction of feed intake may actually improve efficiency of feed utilization in comparison with full feeding. As less available energy is required to produce lean as compared to fat, the leaner carcasses of the pigs fed restricted rations should be associated with improved efficiency of feed utilization. The results of an experiment on restricted feeding at the University of Alberta are given in Table 2. In this experiment finishing pigs were:

(1) Allowed to self-feed one hour each day.

(2) Allowed to self-feed one hour twice each day.

(3) Allowed continuous access to self-feeders.

The ration fed was predominantly barley with 25% wheat, 9% oats, a protein supplement of soybean oil meal and fishmeal and with vitamins, minerals and antibiotic supplement. Details of all current experiments are reported each year in the annual Feeders' Day bulletin from the University of Alberta.

The moderate restriction of feed intake using a normal energy level in the finishing ration seems to offer much more promise than dilution of

Dr. John P. Bowland

AUTHOR — Dr. Bowland is a 1945 graduate of the University of Manitoba with a major in agriculture. He received his master of science degree from Washington State University, Pullman, Wash., in 1947 and a Ph.D. degree in biochemistry and animal husbandry from the University of Wisconsin in 1949.

Dr. Bowland became a member of the staff of the University of Alberta in 1949 and has been in charge of the swine research program as well as teaching in the field of animal nutrition and swine production. He is at present associate professor of animal husbandry in the department of animal science.

In 1958 he was made a fellow of the American Association for the Advancement of Science. From August, 1959, to August, 1960, he was on sabattical leave and spent eight months at the National Institute for Research in Dairying at Shinfield, near Reading, England, where he worked on copper metabolism in pigs. The remainder of the leave was spent visiting various institutions and touring western Europe and the British Isles.

TABLE 1. Use of Diluents in Pig Finishing Rations

Ration	Basal barley	Oats replacing barley	Barley—25% hay
Number of pigs	9	12	18
Average initial weight, lb.	111	107	112
Average final weight, lb.	199	196	197
Average daily gain, lb.	1.68	1.50	1.37
Average daily feed intake, lb.	7.4	6.8	7.5
Feed required per lb. gain, lb.	4.43	4.52	5.45
Average fat (shoulder, back, loin), in.	1.51	1.40	1.34
Area of loin, sq. in.	3.66	4.01	3.92

TABLE 2. Restricted Feeding During the Finishing Period

Feeding method	Once a day	Twice a day	Self-fed
Number of pigs	24	24	24
Average initial weight, lb.	105	113	111
Average final weight, lb.	194	196	195
Average daily gain, lb.	1.37	1.83	1.94
Average daily feed intake, lb.	4.9	6.4	7.6
Feed required per lb. gain, lb.	3.54	3.51	3.91
Average fat (shoulder, back, loin), in.	1.25	1.40	1.49
Area of loin, sq. in.	3.48	3.49	3.40

TABLE 3. Energy-Protein Relationships in Pig Rations

Ration	HEHP	HELP	LEHP	LELP
Number of pigs	16	16	16	16
Average initial weight, lb.	19	20	20	19
Average final weight, lb.	197	198	195	196
Average daily gain, lb.	1.58	1.45	1.43	1.41
Average daily feed, lb.	4.6	4.3	5.5	5.6
Feed per lb. gain, lb.	2.91	2.99	3.87	3.94
Average fat (shoulder, back, loin), in.	1.54	1.61	1.37	1.42
Average area of loin, sq. in.	4.22	3.81	4.10	3.97

TABLE 4. Summary of Energy-Protein Study Using High Fat Levels in the Rations

Ration Supp. fat %	Protein %	No. of pigs	Av. daily gain, lb.	Av. daily feed, lb.	Feed required per lb. gain, lb.	Av. backfat (shoulder, max. loin) in.	Av. loin area, sq. in.
0	14	12	1.06	3.3	3.16	1.9	3.0
0	18	12	1.46	4.0	2.74	1.7	3.6
0	22	12	1.42	4.0	2.85	1.7	3.4
15	14	12	1.24	3.0	2.39	2.2	3.1
15	18	12	1.54	3.3	2.17	2.1	3.5
15	22	12	1.52	3.4	2.26	2.0	3.4
30	14	12	1.45	2.8	1.95	2.2	3.1
30	18	12	1.50	2.8	1.84	2.1	3.4
30	22	12	1.62	2.9	1.77	2.0	3.5

TABLE 5. Comparison of Different Breeds or Crosses of Pigs

Breed or cross	Yorkshire	York. x (Lacombe-York.)	Tamworth x (Lacombe-York.)
Number of pigs	24	24	24
Average initial weight, lb.	41	47	46
Average final weight, lb.	194	195	196
Average daily gain, lb.	1.55	1.57	1.58
Average daily feed, lb.	5.0	5.0	5.3
Average feed per lb. gain, lb.	3.28	3.19	3.38
Average fat (shoulder, loin, back), in.	1.32	1.35	1.47
Grades A	22	20	12
Grades B	2	4	12

rations. Under Canadian grading standards there was a considerable economic advantage in favor of the pigs allowed to self-feed one hour twice each day as compared to those on self-feeders continuously. It actually takes only a little mechanical ingenuity to devise self-feeders that can be opened for a limited period each day so that a high labor requirement is not necessarily associated with this system.

In Great Britain and western Europe a second method of restricted feeding is widely followed. This consists of feeding according to a scale of so many pounds of feed per pig per day depending on the weight of the pig. This feed may be fed dry or it may be fed in liquid form. Liquid feeding of pigs was discussed in the Feb. 11 issue of Feedstuffs. Admittedly, labor is a less important factor in pig production costs in western Europe than in North America, but restricted feeding to a scale need not be a major time consuming operation. Automatic systems are being used which have made this method of feeding require as little labor as normal self-feeding.

It is suggested that feeding to scale will improve efficiency of feed conversion along with the improvement in carcass quality. In studies just completed at the University of Alberta, market pigs from 100 to 195 lb. were individually fed rations containing two energy levels both ad libitum and restricted to a scale ranging from 4.1 lb. per pig per day at 100 lb. liveweight to 5.4 lb. per pig per day from 151 lb. to market weight. Results from the restricted feeding plan were not favorable so it appears that considerable study is required on levels of intake and other factors before such a method can be recommended.

ENERGY - PROTEIN RATIOS — Table 3 summarizes the results of an experiment to compare energy and protein ratios in swine rations. The high energy (HE) rations contained 81% calculated T.D.N. (88% apparent digestible energy by determination) and were based on wheat and limited corn with soybean oil meal and herring fishmeal as protein supplements. Twenty per cent inert diluent (terralite) was used to lower the energy in the low energy (LE) rations which contained 64% calculated T.D.N. (66% apparent digestible energy by determination). The high protein (HP) rations had 18% crude protein and the low protein (LP) rations 13% protein. This experiment was not designed as a practical approach to feeding but rather to investigate principles of energy-protein relationships.

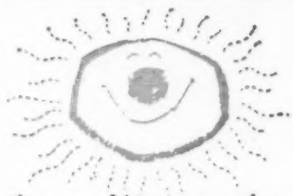
It is evident from the above experiment that the fatness of pigs is influenced by both energy and protein levels in the ration. Further energy-protein studies using high levels of stabilized tallow in the rations are summarized in Table 4. In this experiment a 3 x 3 factorial design was used based on energy levels obtained by the addition of stabilized animal fat at 0, 15 and 30% of the ration and protein levels of 14, 18 and 22%. The basal ration contained 2% of crude fat determined as ether extract. There were 12 pigs per lot individually fed from 15 to 195 lb. liveweight. Again it is evident that both energy and protein influenced carcass characteristics as well as rate of gain and efficiency of feed utilization. From studying the data it seems apparent that no fixed energy-protein ratios in the ration can be recommended for swine even in terms of expected rate of gain. When carcass quality is considered, a compromise in ration formulation may be necessary between rations that give maximum gain and efficiency of feed utilization and those that give maximum carcass quality.

FEED ADDITIVES—In studies at the University of Alberta since 1949 it has been consistently noted that if the addition of an antibiotic feed supplement to a pig ration results in improved rate of gain in the finishing period, it also results in greater backfat thickness in the carcass. Carcass quality reduction by the use of antibiotic feed supplements is a controversial topic and undoubtedly varies with strains of pigs and with feeding practices. Despite possible reduced carcass quality, because of other management factors, low levels of antibiotic supplements as suggested by the U.S. N.R.C. Nutrient Requirements for Swine are recommended in finishing rations in Alberta. Thiouracil has been shown to produce leaner carcasses in pigs under our conditions but the levels and period of feeding were found to be much too critical to allow its use in practice. Other additives tested have not been found to have a predictable effect on carcass quality.

BREEDING AND SEX OF PIGS— In a swine enterprise the ultimate hope is to develop a strain or cross that has a carcass quality potential sufficiently high so that relatively high energy rations may be fed in the finishing period thus giving a rapid rate of gain, a high efficiency of feed conversion and still maintaining carcass quality. Table 5 summarizes one experiment where several strains were compared using different levels of feed intake. The data demonstrate that breeds and strains do differ greatly in their carcass quality even when rate of gain, feed intake and efficiency of feed utilization may not be greatly different. Our studies and those elsewhere have also shown that the major carcass quality characteristics do not show heterosis in crossbred pigs but are essentially an average of the breeds that go into the cross.

There are now three bacon breeds available in western Canada for use as pure breeds or for crossing purposes in commercial enterprises. These are the Yorkshire, Landrace and Lacombe breeds. This latter breed was developed at the federal experimental station at Lacombe, Al-

(Turn to page 38)



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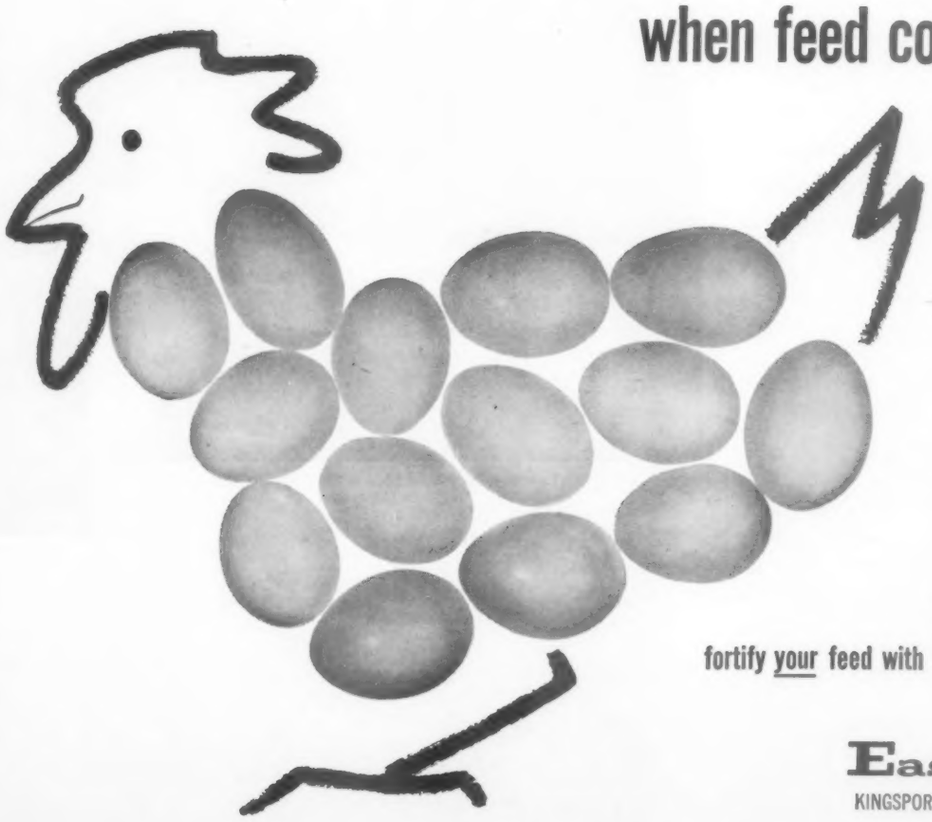

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berta, with the objective of forming a breed that could be used successfully in crossing with the Canadian Yorkshire. The breed is selectively registered in that a minimum performance with regard to growth rate, feed efficiency and carcass quality must be achieved before an animal can be registered. Within these breeds, particularly the Yorkshire and Landrace, there is wide room for selection. Therefore, from these breeds or breed crosses or possibly from other breeds not at present adequately tested in Canada, pigs with unusually high carcass quality potential may be obtained.

Female market pigs almost always yield carcasses lower in fat than castrate males. For example, the female pigs in the experiment outlined in Table 3 had an average of 0.19 in. less average backfat, and 0.54 sq. in. more loin area than the barrows in the same experiment. For this reason separate finishing of the two sexes should be considered in a large enterprise where carcass merit is a measure of performance.

ENVIRONMENTAL AND MANAGEMENT FACTORS—With the reasonably rigorous climate that exists in western Canada, the influence of climatic environment on pig performance is a matter of considerable interest. Our studies to the present comparing production of pigs inside in a modern ventilated and heated piggery or in an older poorly ventilated piggery versus production outside with various types of colony houses for shelter in summer and in winter show that there is very little direct effect on carcass quality by these environmental influences. Rate of gain and feed conversion, however, are influenced considerably in some cases, and these alterations may in turn influence carcass quality.

Feeds available in western Canada are similar to those available in the Pacific Northwest and northern plains regions of the U.S. and to some extent those available in the New England area. For this reason feeding practices in Alberta are probably much more applicable to these areas than to the midwest or southeastern U.S. Regardless of area, however, general principles involved in production of quality hogs can be applied. For example, many of the management practices and principles of feeding followed in western Europe are similar to those in use in Canada, despite the differences in climate, available feeds and available labor.

SUMMARY—Although this article has dealt largely with feeding practices in pigs from 100 to 200 lb. liveweight, the feeding of pigs prior to

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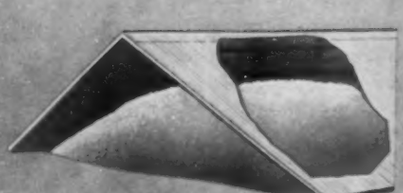

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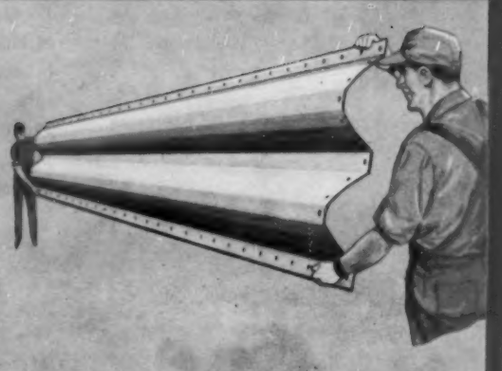

100 lb. in weight will also have an influence on the carcass quality of the animal. To the present, the exact relationship of nutrition in the growing period to the final carcass characteristics is not as well understood as the influence on carcass quality of nutrition in the finishing period.

A compromise in ration formulation may be necessary between finishing rations that give maximum rate of gain and feed efficiency and those that give maximum carcass quality. Both strain and sex of pigs are important factors to consider, and the development of strains with high quality carcass potential should be the aim in pig breeding. Market weight must also be considered as pigs become fatter and less efficient as they become heavier. Net financial returns will undoubtedly be the final factor in determining an overall feeding program and unless there is a considerable differential in payment for premium carcasses, such as exists in Canada and many western European countries, rate of gain and efficiency of feed utilization are likely to receive emphasis at the expense of carcass quality. The consumer does demand a lean product, however, and without adequate attention to carcass quality in pigs, the market may be lost by default to other meats or competitive products.

Lamb Consumption in Texas at Record High

SAN ANGELO, TEXAS—At a meeting of the sub-committee of the Texas Sheep & Goat Raisers Assn., members learned that the consumption of lamb in Texas was higher than ever before.

Dick Rose of Swift & Co. told the group of ranchers and feeders that demonstrations sponsored by the American Sheep Producers Council of Denver, Colo., had paid off well. These demonstrations were on lamb cuts and home economy projects with retailers and others.

The committee plans to push lamb feeding in Texas, and will meet with Loyan Walker, agricultural director of the West Texas Chamber of Commerce, to publish a brochure on lamb feeding. Committee members to work on the project are Jerry Puckett, a lamb and cattle feeder of Fort Stockton, and also chairman of the committee; Charles Schreiner III of Kerrville, TS&GRA president; Jack Canning of Eden and Tom Wallace of San Angelo, who is executive secretary.

Visitors to the meeting, which was held at San Angelo College, were Charlie Losey from Swift & Co. at Dallas, and Bob Spangler and Don Putnem, who feed out lambs near Kenton, Ohio.

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K-State Study Shows Confidence Key to Good Grain Bank Program

MANHATTAN, KANSAS—A study of the growing grain banking programs of Kansas feed manufacturers shows that the key to the entire operation is customer confidence.

Richard J. Herder, research assistant in the department of agricultural economics, who conducted the study, says, "The basis of a good grain bank program is the customers' confidence in the dealer's integrity.

"Establishment of good customer relations is necessary to grain banking. To promote confidence, the firm should rigidly maintain its policies. The customer should be free to inspect both his accounts and the grain held in bank storage and used in feed processing."

Mr. Herder says that operators of grain banks agree that there are disadvantages as well as advantages in this new business but think they are worthwhile additions to their businesses and most are planning to expand them. The expansion is planned to bring more customers into the program and increase participation of present customers.

Mr. Herder noted that most of the grain banks were started within the last three years.

He says that the chief advantage found in the grain bank is ease in scheduling feed orders, fuller use of labor and longer range operating estimates based on grain in storage. Extra bookkeeping was counted as the biggest disadvantage.

The typical firm surveyed stored between 20,000 and 40,000 bu. in its grain bank. Daily feed milling capacities of surveyed mills ranged from 20 tons to over 100 tons.

Over half of the surveyed firms provided storage for each of four grains: Corn, sorghum grain, oats and barley.

Standards for Grain

In general, it was found that grain banks accept only grains that meet specified standards, although many of them will condition grain if necessary. Nearly all keep records of feed formulas currently in use by customers so that the feed may be ordered easily by telephone, the study showed. Delivery of processed feeds is usually provided as an added service.

Methods used by banks to determine storage charges varied with some banks making no charge but restricting amount per customer and some charging the current Uniform Grain Storage Agreement rates. Most others had specified rates in cents per bushel or hundredweight. Shrinkage discounts, used by many, ranged from 1% for most to 3% for one firm.

On the subject of overdrawals, some banks made an immediate charge of the market price for the amount of grain overdrawn while others provided for replacement.

Accounting methods were found to vary but generally included the following information: Kind of grain, date and quantity of deposit, date and quantity of withdrawal and current grain bank balance.

Most of the mills surveyed appeared to be well equipped to process feed, Mr. Herder commented. About one-third of them required advance notice, usually one day, for milling feed. Delivery service was complementary and in some cases necessary to grain bank operations, the survey showed.

In planning to enter this area of operation, Mr. Herder says, "Before opening the door to grain bank customers, a firm should determine the place of the bank relative to total operations. Bank programs will vary, depending on whether they are intended to expand feed business, to provide alternative uses of storage space or to provide for the complete integration of feed processing and storage.

"A firm survey should be made so that physical capacities are recognized. In that way the firm could determine where plant limitations exist and be able to estimate the capital changes necessary to provide an adequate bank program."

Further, Mr. Herder advises a survey of the trade area and potential feed bank clientele. He said, "Information regarding future feeding intentions, kinds of livestock, type of services desired and interest in grain banks is necessary to long range planning.

"A trade area survey, together with the physical plant inventory, would help determine the feasibility of a grain bank program."

Mr. Herder says, "Once it has been decided to operate a grain bank, specific policies should be established, preferably in written form. These policies should state exactly the kinds, qualities and quantities of grain to be deposited, the disposition of sub-standard grain, the provisions for overdrawals and withdrawals of unprocessed grain, and the requirements regarding feed processing and delivery. These policies should be available to potential customers.

"Grain banks also require careful bookkeeping. An adequate accounting system is a 'must.' The system should be set up so that it satisfies legal requirements, provides an accurate customer record and gives the firm a cost guide that will enable it to evaluate and improve bank operations. The firm should also be certain that grain bank operations comply with the requirements of the state and federal warehousing laws and the feed control division of the state board of agriculture."

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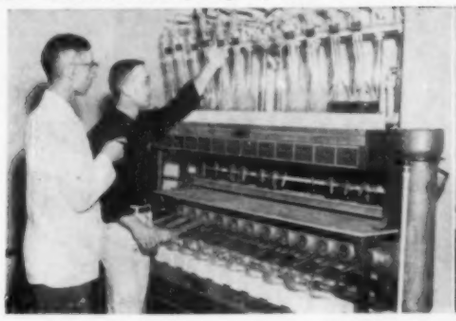

The Kansas State course in Flour and Feed Analysis is now taught in new laboratory facilities in new milling building on campus.

Courses in Business Management are an important part of the Administration option of the feed technology curriculum.

Students in Feed Technology I learn the operating characteristics of hammermills at Kansas State University.

The UNDERGRADUATE CURRICULUM In Feed Technology at Kansas State University

By Dr. Harry B. Pfost
Department of Flour and Feed Milling Industries

The undergraduate curriculum in feed technology at Kansas State University was organized with the guidance of the Feed Technology Industry Advisory Committee and had remained essentially unchanged, insofar as course titles are concerned, until the beginning of the present academic year. The new curriculum described here was formulated to conform to an over-all curriculum change in the School of Agriculture but was planned to retain the original objectives of the program as proposed by the advisory committee members who have served since the curriculum was first organized.

The curriculum of the School of Agriculture at Kansas State University has been revised to conform with the changing employment opportunities and professional needs of agricultural graduates. These changes have become necessary as a larger percentage of the graduates of agricultural colleges seek employment in industry, and as agricultural workers have found a need for more training in the basic sciences.

At present, all students within the School of Agriculture are required to take a uniform schedule of courses during their freshman year and, in addition, to take more basic courses in the sciences and mathematics. This change has made it possible for the student who enrolls within the School of Agriculture to delay making a final decision on his specialized field of study until the beginning of the sophomore year.

Many freshmen who enroll in any college are not familiar with the many professional areas of training which are available. This new flexibility enables such students to select their field of specialization after having had one year on the campus to become acquainted with the various curriculums.

TABLE 1. Curriculum in Feed Technology

First Semester		Second Semester	
FRESHMAN			
Agricultural Seminar	0	Agricultural Seminar	0
Agriculture in our Society	2	Chemistry II	5
Chemistry I	5	Economics I	3
English Composition I	3	English Composition II	3
College Algebra	3	Plane Trigonometry	3
General Psychology	3	Engineering Graphics I	2
Air or Military Science	1	Air or Military Science	1
Physical Education	0	Physical Education	0
Total	17	Total	17
SOPHOMORE			
Agricultural Seminar	0	Agricultural Seminar	0
Principles of Milling	3	Flow Sheets	2
Biology I	4	Biology II	4
Air or Military Science	1	Air or Military Science	1
Milling Seminar	0	Milling Seminar	0
Physical Education	0	Physical Education	0
Option A, B or C	9	Option A, B or C	10
Total	17	Total	17
JUNIOR			
Agricultural Seminar	0	Agricultural Seminar	0
Feed Technology I	4	Qualities of Feed Ingredients	3
Nutrition & Management of Farm Animals	4	Social Science	3
English Proficiency	0	Milling Seminar	0
Milling Seminar	0	Oral Communications I	2
Option A, B or C	9	Option A, B or C	9
Total	17	Total	17
SENIOR			
Agricultural Seminar	0	Agricultural Seminar	0
Civilization I	3	Civilization II	3
Milling Seminar	0	Milling Entomology	4
Option A, B or C	14	Milling Seminar	0
		Option A, B or C	10
Total	17	Total	17
OPTIONS			
Option A (Administration)		**Option B (Chemistry)**	
General Organic Chemistry	5	Quantitative Analysis	4
Quantitative Analysis	4	Organic Chemistry I, II	10
Principles of Accounting	3	Physical Chemistry I	5
Business Law I	3	Flour and Feed Analysis	4
Flour and Feed Analysis	4	General Physics I, II	8
Sales Management	3	Biochemistry	5
Feed Technology II	4	Analytic Geometry and Calculus I, II, III	12
General Physics I, II	8	General Microbiology	4
Business Finance	3	**Option C (Operation)**	
Elements of Statistics	3	Analytic Geometry and Calculus I, II, III	12
Statistical Quality Control	3	Engineering Graphics II, III	4
Business Letter Writing	3	General Organic Chemistry	5
Grain Marketing	3	Engineering Physics I, II	10
Money and Banking	3	Feed Technology II	4
		Flour and Feed Mill Construction	3
		Advanced Flour and Feed Technology	3
		Statics	3
		Mechanics of Materials	3
		Electrical Engineering	3

Three Options

The curriculum in feed technology is divided into three options: Administration, Chemistry and Operations as shown in Table 1. The curriculum has been designed to provide basic training in the area of feed technology and its underlying basic sciences for all of the students and, at the same time, it allows for specialization in the field of the individual student's major interest. One of the major changes incorporated in the new curriculum is additional emphasis on chemistry, physics and mathematics.

The courses within the department of flour and feed milling industries have been revised to take advantage of the better basic training which the students now have and to incorporate other suggestions by the feed technology advisory committees. An attempt has been made to maintain a reasonable level of courses in the humanities and social studies because it is felt that these are basic courses necessary to produce well-educated men. Students who do not elect to take advanced ROTC will have about nine hours of electives which may be used to broaden their education in the humanities or to achieve a greater degree of specialization in whatever fields they may choose.

The Administration option has been organized to give the student a broad background of courses from the fields of business administration and economics and, at the same time, to give him a working knowledge of feed mill operation and feed formulation. The training in the basic sciences is sufficient to enable the student to understand the fundamental concepts of nutrition and feed production. Graduates who have taken this option usually begin their careers in the fields of marketing, purchasing, personnel management, etc.

The Chemistry option has been designed to provide the students with a particularly strong background in basic organic and biological chemistry. The graduate who has taken this major should be well qualified to work in quality control or nutrition areas. Since it is realized that many nutritionists are now seeking advanced degrees, it is planned that the undergraduate program in this area will provide the student with the background required to pursue graduate work in the field of nutrition at Kansas State University or other institutions.

The Operations option has been designed to train the student in the fundamentals of engineering needed as basic training for the operation of feed manufacturing plants, or to provide the background required to design feed mills, processes and equipment. It is realized that many of the feed companies have employed engineers for production work, and this curriculum has been planned to provide basic engineering training, together with specialized training within the department, directed specifically toward feed processing operations and equipment.

Most of the courses taught outside the department of flour and feed milling industries are courses whose titles explain their general nature. (See Table 1.) Discussion of specific courses is limited here to courses taught within the department.

Courses Described

The first course taken by all undergraduate students within the department is Principles of Milling. It is designed to acquaint the student with the commonest processes used in all

First of a Series

How an institution of higher learning has adopted a professional approach to the training of young men for future positions in the offices, laboratories and mills of the feed industry—and how this thorough preparation program benefits the industry it serves—is told in the accompanying article and two more to follow in subsequent issues of Feedstuffs.

Dr. Pfost, professor in the department of flour and feed milling industries at Kansas State University, has divided his presentation into three parts. This article, the first in the series, concerns the undergraduate curriculum in feed technology. In the second, Dr. Pfost will discuss graduate work. And in the third, the author will tell about Kansas State's program of research in feed technology.—The Editors.

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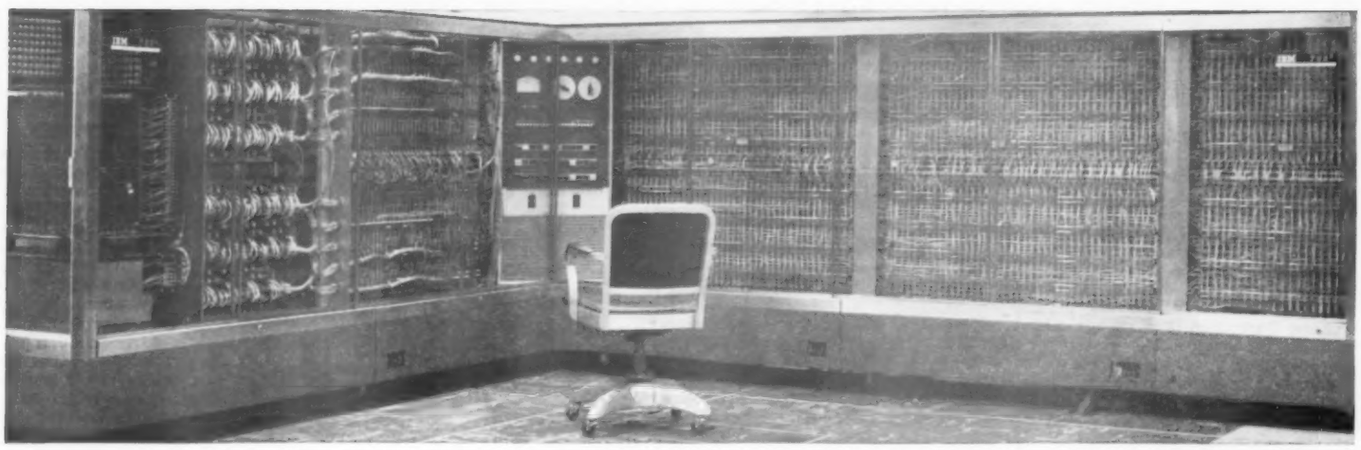

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Adjustment and operation of the automatic electronic proportioning system is studied by students enrolled in Feed Technology II.

Pneumatic conveyors and their operating performance are a part of the course in Advanced Flour and Feed Technology.

mills, such as cleaning, impact grinding, roll grinding and similar operations; it also covers basic procedures such as moisture testing, particle size analysis and physical testing of grain quality.

The course in Flow Sheets first acquaints the student with the flow in the department's pilot feed and flour mills. The function of each piece of equipment is explained, and the student learns the process flow within these two typical types of mills and the reasons underlying the flow design. After the student has become acquainted with and drawn flow sheets of the pilot mills, he studies the flow of larger commercial mills.

Feed Technology I is an introduction to the engineering aspects of formula feed manufacturing with particular emphasis on mixing and pelleting. The student, at this time, is engaged during laboratory periods in the operation of the pilot feed mill and learns how to make various types of feeds, using most of the equipment in the mill. The course also includes work on formulation of concentrates and complete feeds; in this phase the student is taught how to balance a ration to provide the necessary nutrients required by various classes of livestock. This course devotes some time to the use of linear programming and electronic computers to formulate rations at the least cost for ingredients while providing the necessary nutrient requirements.

The course in Qualities of Feed Ingredients is almost self-explanatory in its title. The qualities of raw feed ingredients and the effect of subsequent processing on chemical and biological characteristics constitute the basic subject matter.

This completes the courses taken by all students in Feed Technology. The courses discussed hereafter are taken by students enrolled in only one or two of the options.

Other Courses

Feed Technology II is an advanced study of engineering principles of feed production and includes a study of equipment other than mixing and pelleting, which is covered in Feed Technology I. It also includes emphasis on maintenance, safety, fire prevention, electronic controls and other areas which have not been covered in previous courses. The course is required for the Operations and Administration options.

Flour and Feed Analysis is required for all students in the chemistry option. In this course, emphasis is placed on laboratory work and the methods of quantitative analysis of flour and feed composition. Special emphasis by field is made in the laboratory depending on whether the student's major interest is in flour or feeds.

Advanced Flow Sheets is primarily a drafting and design course to teach students to design the flow for more advanced types of mills and acquaint him with flows for cereal processing plants other than feed and flour mills.

Advanced Flour and Feed Technology is required of all students within the Operations option. This course is devoted primarily to fluid flow and its application within the milling industry, including: The flow of liquids in processing operations, the use of air in dust collecting, pneumatic conveying, drying, air classification and cleaning, and similar operations.

Flour and Feed Mill Construction is also required of all Operations majors. It covers the design of elevators and the layouts of flour and feed plants—with special emphasis in the student's major field of interest.

Storage, Processing

The department offers a course in Fundamentals of Grain Storage which may be taken as an elective by any student enrolled in the department. It covers the basic science of grain storage, including the role of moisture in grain, physical factors that influence storage, role of microorganisms, respiration and heat and influence of insects on storage.

Many students who are not enrolled within the department, but who are majoring in closely allied areas, such as animal nutrition, need a general course such as Feed Manufacturing Processes. This course is being offered for students outside the department to cover the technical phase of formula feed manufacture, including processes, feed formulation, effect of processes and ingredients on nutrient acceptability of feed and quality control of products. The course is designed to give students outside the department an opportunity to utilize the pilot mill and other available laboratory facilities.

Milling Seminar

Throughout the last three years of undergraduate work, all students in the department are required to attend Milling Seminar. Freshmen who are interested are invited to attend also. In these seminars, an attempt is made to familiarize students with many special problems of the milling industry through the cooperation of outside speakers. Some of the seminars are devoted to reports on advanced research and technical developments, while others are devoted to areas of general business management problems.

The present enrollment in the department by year and option is shown in Table 2. It will be noted that a relatively large percentage of the students are enrolled in Administration and in Operations. The results of a survey of opportunities for college graduates in the feed industry published in August, 1960*, shows greatest demand for young men in the industry falls within these groups. The feed industry has a much greater need for employees with technical training than can be met by graduates of this department.

Scholarships

Since the Department of Flour and Feed Milling Industries is unique in the U.S., many of the students come to Kansas State University from outside Kansas. As an incentive to good students from Kansas and from other states to enroll in the department, various industrial groups have made scholarships available for undergraduates. Most of these scholarships pay the student $300 to $400 per year; if financial need is shown. If scholarship holders maintain high scholastic ratings, the scholarships are continued.

Also, thanks to the support of the feed industry, the Oscar Straube Memorial Scholarship House was opened in September, 1960, to provide financial assistance in the form of essentially free housing for students enrolled in Feed Technology. Any student who enrolls in Feed Technology and maintains an acceptable grade average may live in this house. The students do a part of the work required to operate the house, and this enables those living in the house to reduce the college costs by approximately $300 per year.

College Costs

What a student spends and actual college costs are two different things. Expenditures depend to a considerable extent on personal habits and management. Some of the expenses a student must plan for in a school year (September to June) are:

	Residents of Kansas	Nonresidents
Enrollment fees	$298	$518
Books and supplies (approximately) ...	60	60
Room & board (men's residence hall) ...	660	660

The curriculum in Feed Technology has developed in an evolutionary manner from the original program inaugurated about eight years ago. Further changes will be made in the specialized courses as the feed industry develops and as the past graduates and their employers suggest improvements in the program.

It should always be borne in mind that colleges and universities can provide only basic training and that the graduates of this, or any other institution, must continue their education, formally or informally, to learn all of the intricacies and specialized skills of their profession.

The policy of this department is to provide a core of courses in the basic sciences which give graduates a foundation for further technical development, plus a number of courses from the social sciences and liberal arts which, it is hoped, will stimulate them to study further in these broader areas.

TABLE 2. Enrollment in Feed Technology, 1960-61, Kansas State University Manhattan

	OPTION				
	Administration	Operation	Chemistry	Unclassified	Total
Seniors	12	13	4	0	29
Juniors	7	11	0	1	19
Sophomores	6	4	1	4	15
Sub total	25	28	5	5	63
Freshmen*	..	..	..	..	18
					81
Graduate students				4	4
Total enrollment					85

*Students do not state an option until the end of their Freshman year.

*"Opportunities for College Graduates in the Feed Industry." American Feed Manufacturers Assn., Inc., 53 West Jackson Blvd., Chicago, Ill.

Aeroglide Announces New Field Service

RALEIGH, N.C.—Aeroglide Corp. has announced completion of a training program for service and installation men on grain driers from the Emporia, Kansas, plant. Selvin G. Watson, field service manager for Aeroglide, has spent five months in Emporia establishing and staffing the program.

Prime responsibiltiy for installation and service is vested in Haskell O'Brien, plant superintendent at the Emporia factory. Three men have completed the program conducted by Mr. Watson. "Demonstration units set up in the factory, lectures on the theory of grain drying and actual field work assignments make these men competent to handle any service problem in connection with Aeroglide equipment," said Mr. Watson.

Aeroglide grain drier users anywhere in the U.S. now have service available to them within a few hours. A full stock of repair parts is maintained at Emporia for prompt service to the midwestern states, officials said.

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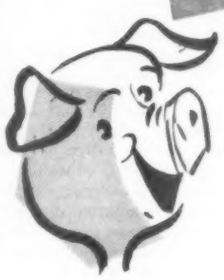

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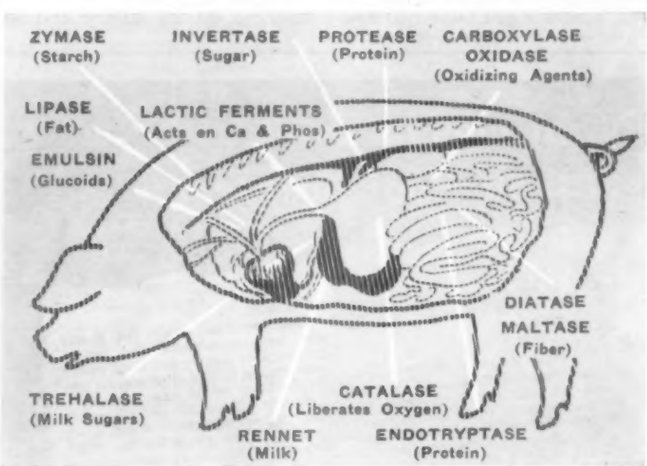

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By Dr. J. E. Oldfield
Oregon State College

From time to time on the stage, the audience is surprised to find a well-known actor best known for a succession of "heavy" or villainous parts, cast in a more benign role. Such transitions are not confined to the theater, and the field of animal nutrition has a current example in the recognition of selenium as an essential micronutrient for animal life. This is somewhat of a shock to some who have grown accustomed to thinking of selenium only as a toxic element, and a hazard to livestock.

SELENIUM TOXICITY — It has been known for many years that seleniferous soils exist in some parts of the world and that they contain many times "normal" concentrations of selenium. Such soils are apparently of two main types: arid soils in areas of less than 20 in. annual rainfall, and low-lying, poorly drained soils of a high organic matter, "peaty" type (Trelease and Beath, 1949; Walsh et al., 1951). On such soils, certain plants tend to accumulate selenium to a very considerable degree. Examples of these are the so-called "locoweeds" or "milk vetches" of the Astragalus species, and Stanleya pinnata, the "prince's plume." The average selenium content of such accumulator plants has been listed as 800 ppm., and the highest as 15,000 ppm. (Trelease, 1945). Ingestion of such plants by animals leads to a subacute form of poisoning which has been given the name of "blind staggers." (Draize and Beath, 1935.) In addition, many other plants, including cereal grains and hays made from them may accumulate lesser amounts of selenium, which, if eaten over a period of time may cause a chronic toxicity, misnamed "alkali disease" (Franke, 1933). The symptoms of alkali disease in cattle include stiffness of the joints, vertical and horizontal cracking of the hoofs, sloughing of the hoofs and loss of hair. Blind staggers, on the other hand, is characterized by multiple foci of necrosis in the cerebral cortex. It has been suggested that the type of symptoms which develop relate not only to the amount, but also to the form of selenium ingested. Alkali disease is apparently caused by selenium-protein complexes that are relatively insoluble in water, while blind staggers results from compounds more readily soluble (Maag et al., 1960). Further evidence of the importance of difference of combination of selenium has been provided by the Colorado workers (Ibid, 1960) who demonstrated that cattle could tolerate some selenium (about 0.25 mg. Se/lb. body weight) without ill effects, and that continued consumption of sodium selenite did not produce a cumulative effect.

FACTOR 3, Se AND VITAMIN E—The role of selenium in animal nutrition took on an entirely new aspect when Schwarz and Foltz (1957), working at the National Institutes of Health, identified it as an integral part of "Factor 3"—a then-unknown agent which could prevent necrotic liver degeneration in laboratory rats. (Factor 3 derived its name from the fact that it was the third such agent to be demonstrated, the other two being vitamin E and L-cystine.) Factor 3 was found to be present in casein and in certain yeasts.

These findings stimulated increased activity in research concerning the nutritional effects of both vitamin E and selenium. It soon developed that there were both points of similarity and points of difference notable in animals administered selenium and vitamin E. Necrotic liver degeneration was found to respond, in rats and mice, to either vitamin E or sodium selenite (Schwarz and Foltz, 1957; De Witt and Schwarz, 1958). The National Institutes of Health workers were able to demonstrate that selenium, as sodium selenite, was approximately 500 times as active as vitamin E and some 250,000 times as active as L-cystine in overcoming this defect. Similarly, exudative diathesis in chick was found to be prevented by both vitamin E and selenium (Scott, et al., 1957). On the other hand, encephalomalacia or so-called "crazy chick disease" responded to vitamin E but not to selenium (Dam, et al., 1957), as did the dialuric acid test

Here are some reports on recent work offering a solution to the Blood Spot problem

FEEDSTUFFS, June 11, 1960

Scientist Discusses Egg Bloodspot Causes

MANHATTAN, KANSAS—Rodenticides or a shortage of vitamin K in rations may cause eggs with bloodspots, according to Dr. Paul E. Sanford, poultry husbandry department at Kansas State University.

Referring to low vitamin K, the poultry scientist noted that most poultry rations now contain dehydrated alfalfa meal as a natural source of vitamin K, and that some feed manufacturers are adding synthetic vitamin K as a guard against the hemorrhagic condition.

Dr. Sanford says a 1-2% loss due to bloodspots is to be anticipated (on the candled basis), but if the grading loss runs much higher than 2%, a poultryman "must" become concerned.

Firm's Test Shows Vitamin K Reduces Blood Spot Incidence

VALLEY STREAM, N. Y. – Recently announced experimental results indicate that the feeding of vitamin K reduces the percentage of blood spots in eggs–an abnormality which causes heavy marketing losses.

This observation comes from work conducted by Heterochemical Corp. to study the value of using stabilized vitamin K premixes in retarding the incidence of egg blood spots.

In a technical paper on the tests involving "Hetrogen K Premixes," a brand of stabilized menadione sodium bisulfite produced by Heterochemical, Raymond Berruti and Gilman T. Dedrick conclude:

"It appears that under experimental conditions the addition of 4 gm. of stabilized Hetrogen K per ton of commercial layer feeds would be of great economic advantage in decreasing the number of eggs with blood spots and increasing the percentage of marketable eggs."

Summarizing results of the study in which the incidence of blood spots, egg production, egg weight, interior egg quality and feed consumption were emphasized, Mr. Berruti and Mr. Dedrick report that hens with a history of high blood spots when taken off feed containing 4 gm. of stabilized vitamin K returned to laying eggs with a higher percentage of blood spots.

"These results suggest," they say, "that the stabilized K had a marked effect in prevention of hemorrhages of blood vessels inside the yolk sac and follicle."

More Research Needed

The investigators observe that the need for additional research in the area of reducing blood spot incidence is apparent, and they note that previous work with lower levels of vitamin K of "a questionable stability" showed no curtailment of blood spot occurrence.

They say the study they describe was initiated in view of recent technological advancement in the stabilization of vitamin K in premixes and in view of new information relative to blood spot formation.

They say blood spots in shell eggs continue to be a serious problem for the poultry industry. "Economic losses from these defects are great and with the development of automatic detecting devices the problem is becoming even more intensified from the standpoint of breeder and producer."

Test Procedure

Heterochemical's vitamin K study began with the placing of 540 White Leghorn hens, 14 months of age, in individual 8-in. wire cages. These hens were fed a basal diet on which they had been maintained since reaching 50% production.

The birds were divided into three rows of 180 birds each. Rows A and C were fed the basal diet, while row B was fed the same diet plus 4 gm. of Stabilized Hetrogen K per ton of ration. These hens were maintained in a cage layer house at temperatures which normally exist under winter conditions (in northeastern U.S.). A uniform light day of 14 hours was maintained.

After the fourth week, row B was split into two sections. One section continued to receive the basal ration plus vitamin K. The other section was fed the basal ration only.

Mr. Berruti and Mr. Dedrick report that the percentage of blood spots for row B, the group fed the basal diet and vitamin K, at the beginning of the trial was 6.9%. Row A and row C percentages were 6.3% and 7.7%, respectively.

At the end of the two-week period following initial feeding of Hetrogen K to row B, the incidence of blood spots dropped to 3% in this group, while little change in incidence appeared in rows A and C.

The investigators report that at the end of the four-week period a further decrease (1.7%) in blood spots was evident in row B birds. Row A and C hens continued to show only slight change in the percentage of blood spots.

Mr. Berruti and Mr. Dedrick note that birds receiving supplementary Hetrogen K returned to laying eggs with a high percentage of blood spots within 16 days after the removal of supplementary K from the ration. One half of the birds in row B which continued to receive supplementary K laid eggs with an incidence of blood spots of 1.9%, whereas the group of birds taken off of Hetrogen K laid eggs 5.4% of which exhibited blood spots.

Further investigation is needed, the report authors say, to determine whether the reduction of blood spot incidence among birds in the test group was "due to the effect of Stabilized Hetrogen K in keeping blood vessels in better clotting condition or due to increased availability over other forms of vitamin K."

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for in vitro hemolysis of red blood cells (Gitler, et al., 1958).

SELENIUM IN LARGE ANIMAL DIETARY DISEASES — Interest in possible beneficial effects for minute amounts of selenium in rations for farm livestock was aroused by experiments in Oregon (Muth et al., 1958) and New York (Proctor et al., 1958) carried out almost simultaneously in 1958, which showed a response to selenium supplementation by lambs in cases of white muscle disease. Interestingly, the basal rations employed by these two groups both consisted largely of legumes. The Oregon diet was Ladino clover chaff (collected at time of seed harvesting) plus ¼ lb. ground oats daily as a carrier, while the Cornell diet was one which had been associated with the "stiff-lamb" problem there for many years (Willman, et al., 1945) and consisted of alfalfa hay and cull red kidney beans. Muth has previously pointed out the implication of legumes in this problem (Muth, 1955). The Oregon experiments showed a preventive effect against white muscle disease in lambs for 0.1 ppm. of Se, as Na_2SeO_3, given in the feed of ewes from 90-100 days prior to lambing, but no effect for 100 I.U. of α-tocopherol daily given orally or parenterally to ewes over the same period. The New York work showed a beneficial effect for 1 ppm. of Se given orally to ewes over a 30 day period pre-partum, and a limited effectiveness for 100 I.U. α-tocopheryl acetate daily over the same period.

Meanwhile note had been taken of incidence of white muscle disease among sheep and cattle in New Zealand (Hartley, 1957). Here feeding conditions are somewhat different in that the animals are kept on pasture the year 'round. Generally the pastures are seeded to mixtures containing legumes. It may be significant that some of the soils involved in production of the causative crops in both New Zealand and Oregon have only relatively recently been brought into intensive cropping. In New Zealand these include "newly brought in" pumice soils, and in Oregon they encompass some arid lands made productive by use of irrigation water. Numerous field trials were carried out in New Zealand showing that administration of 5 mg. Se orally to ewes shortly before lambing reduced the number of lamb deaths due to white muscle disease, while 300 mg. α-tocopherol, also given by mouth, was without effect. Interestingly enough, the administration of either 1 mg. Se, or of 300 mg. α-tocopherol directly to lambs two to three weeks after birth proved effective in reduction of white muscle disease (Drake, Grant and Hartley, 1960).

Similar situations have been encountered with other species of animals and in other parts of the world. In Scotland, enzootic muscular dystrophy occurs widely in the Moray Firth area, where cattle are wintered indoors on a ration of oat straw and turnips over an extended period—October to May (Blaxter and Sharman, 1953). This condition can be remedied by dosing calves with 200 mg. α-tocopherol weekly, or with 0.25 mg. selenium daily (Sharman, et al., 1955). Minnesota studies showed that liver necrosis and degenerative changes in heart and skeletal muscles of pigs fed a vitamin E-deficient, torula yeast diet could be prevented by either sodium selenite or d-α-tocopheryl acetate (Pellegrini, 1958).

SELENIUM AS AN ESSENTIAL NUTRIENT — The demonstrated effectiveness of selenium in certain cases of muscular diseases has led to the question of whether it may be a growth essential, active where such disease conditions do not occur. Such a concept is not new for in a report published in 1941 Poley and associates mentioned that sub-toxic levels of selenium in chick diets produced a positive growth response (Poley, et al., 1941). More recently, Nesheim and Scott have shown that 0.04-0.10 ppm. Se added to an α-tocopherol-supplemented diet produced faster growth in chicks than α-tocopherol alone (Nesheim, M. C. and M. L. Scott, 1958).

In ruminants, it has been indicated that selenium may increase growth rates in lambs whether or not white muscle disease is present, and it has been suggested that selenium deficiency may contribute to "hoggett ill-thrift," a troublesome problem with lambs in New Zealand (McLean, et al., 1959). Oregon trials have also been interpreted to indicate heavier birth weights and subsequent faster rates of gain in lambs whose dams received selenium as a supplement to a white muscle disease-causative ration (Oldfield, et al., 1960).

SUMMARY—Recent developments have extended considerably the knowledge concerning the role of selenium in animal nutrition. It is impossible now to consider this inter-

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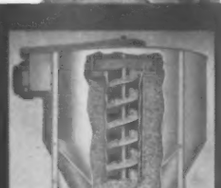

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esting trace element in the light of a toxic entity, following many demonstrations of its efficacy in overcoming specific nutritional disease conditions. Studies referred to above give encouragement to the concept that selenium may be an essential micronutrient, that under certain conditions may be deficient in the diet. The mode of action of selenium, however, has not yet been established.

It appears that judicious selenium administration cannot overcome all manifestations of vitamin E deficiency (muscular dystrophy in rabbits is a case in point); however, Bieri and Briggs have concluded that in the presence of selenium, α-tocopherol acts only as a non-specific antioxidant in the metabolism of the growing chick (Bieri and Briggs, 1959). Schwarz has maintained that selenium neither spares vitamin E nor substitutes for it, but is itself an essential dietary constituent (Schwarz, 1960).

Further work remains to be done on the metabolic functions of selenium, and on the extent of its storage in the animal organism. Absence of such data, in the light of knowledge of selenium toxicities, precludes the use of selenium as a feed additive at the present time. It would appear, however, that sufficient potential nutritional benefits have been indicated to stimulate further research involving this interesting trace element.

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Grain Rate Hearing

PORTLAND, ORE.—Highlight of a lengthy hearing by the Interstate Commerce Commission on grain rates conducted here stressed the position of grain growers, millers, marketers and transporters of wheat and barley in supporting the 25% decrease in grain freight rates published by Northwest railroads.

In addition, Astoria submitted a request to be restored on a parity basis with Portland, Vancouver, Longview and Puget Sound.

The hearing has been recessed until June 15 when it will be resumed here. The recent sessions were largely filled with cross examination of witnesses for the railroads and their supporting shippers.

The June meeting will include cross examination of barge line witnesses. Barge line operators have contested the lower rail rates on the grounds that they are punitive and destructive to water transportation on the Columbia river.

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GRINDING, MIXING PANEL—Here's the panel on local grinding and mixing that was featured at a recent sales conference, held by the Critic feed division of the Beardstown Mills Co., in Springfield, Ill. From left to right are Gail Palmer of Mobile Feed Processors, Highland, Ill.; Carl Graning, Critic feed northern division sales manager, who was conference chairman; W. C. Hoppe, Warnimont Farm Supply, Malta, Ill. and (rear) R. G. Fischer, Critic feed general sales manager, who was panel moderator. Theme of the sales conference was "Think! Sell or Sink!"

Grind, Mix Panel Featured at Critic Feed Conference

SPRINGFIELD, ILL.—A panel on local grinding and mixing was a special feature of the 1961 sales conference held by the Critic feed division of the Beardstown Mills Co. here recently.

Panel members were W. C. Hoppe, Warnimont Farm Supply, Malta, Ill., and Gail Palmer of Mobile Feed Processors, Highland, Ill. R. G. Fischer, general sales manager, was moderator.

Tailored after the theme, "Think! Sell or Sink," the event, held in the Abraham Lincoln Hotel, was attended by over 100 dealers from a four-state area.

Carl Graning, northern division sales manager, was conference chairman. Assisting Mr. Graning with the various sections of the meeting, besides Mr. Fischer and the panel, were: John J. White, general manager; Dr. Chas. Calverley, director of nutrition; Sam Lowe, general superintendent; L. W. Francis, chief chemist; Cecil Stumpf, chief accountant; Jack Wessell, territory manager, and guest speaker, Bill Irwin of Top Value Enterprises.

Those attending voiced appreciation for the "new ideas and fresh approaches to old problems" that were presented. They reacted favorably to an "examination" which concluded the conference. This feature was devised to point out to the Critic Feed sales people nutritional knowledge and sales points on which they might be weak, and also added direction to the best possible use to be made of the sales tools.

Door prizes were won by: Owen Sanders, Evansville, Ind.; Alan Nunn, Evansville, Ind.; Frank Krueger, Edina, Mo.; Jack Trainor, Wing, Ill.; Bob Diemer, Reddick, Ill.; Don Bailey, Greenfield, Ill.; W. C. Hoppe, Malta, Ill.; Marvin Mason, Elmwood, Ill.; Clarence Schave, Illinois City, Ill.; John Petefish, Bloomfield, Iowa; Byron Uplinger, Wallace, Ind., and Kenneth Decker, Highland Center, Iowa.

Cows Affected Little By High Grain Ration

CARBONDALE, ILL.—Little effect has been noted on milk production or animal health in Southern Illinois University tests on high grain rations for dairy cows.

That is the report from Larry D. Stewart, graduate student, and Dr. Howard Olson, associate professor, on tests conducted here. They said that the testing was undertaken because of growing interest in high grain rations for dairy cattle.

They stated that they did observe the following results:

Starting the animals too quickly on the high grain ration brought about diarrhea, lack of appetite and a drop in milk production for about a week at the beginning of the experiment. The cows showed no ill effects after that.

The high grain-fed cows gained 30 lb. for the first three months while those on normal rations gained 50 lb.

Animals on high grain rations averaged 26.67 lb. of 4% fat-corrected milk per day for 110 days. The animals on normal rations averaged 26.95 lb.

Thus, they said that 25.1 lb. of corn and cob meal and 2.6 lb. of 36.3% protein supplement replaced 18.9 lb. of hay, 19.5 lb. of silage and 9 lb. of 14.6% protein supplement with very little effect on milk production or animal health.

The test was begun Nov. 5 with two groups of 20 cows each. The researchers said that one group had received free choice hay, 3 lb. of silage per 100 lb. of body weight and 1 lb. of 14.6% protein supplement for each 3.5 lb. of 4% fat-corrected milk. The other group had received ½ lb. of hay and 1½ lb. of silage per 100 lb. of body weight along with free choice corn and cob meal. These cows consumed about 25 lb. of ground corn daily and had more leisure for eating the grain than when fed in a milking parlor. The cows were fed a small amount of 36.3% protein supplement in the milking parlor to balance their ration.

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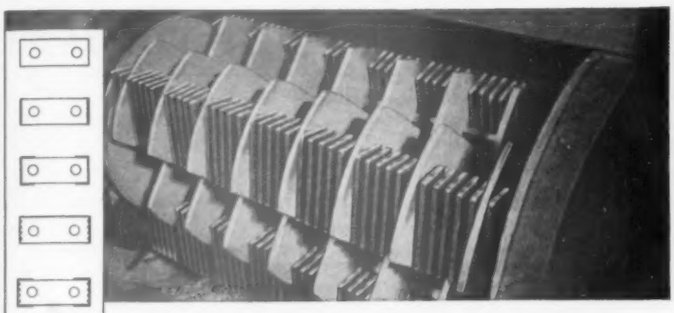

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Part 1 of a Series

On-Farm Mixing Survey Shows Locality Variation

By Al P. Nelson
Feedstuffs Special Writer

Is there a trend toward more farm mixing in the midwestern states?

Recently I visited about 35 feed firms in Wisconsin, Illinois, Indiana and Ohio, seeking answers to this question. I discovered that the tendency of a farmer to buy and operate grinding and mixing equipment on his farm, varied in numerous localities. With the exception of one area in Indiana and two in Ohio, the feed men I visited were not too troubled by farm mixing now, or said they would not be worried in the immediate future. The farm mixing trend would have to be greatly accelerated before many of these feed men would become alarmed.

The survey did bring forth some interesting points, as follows:

1. Specialty feeders—In this field, the feeder, because he concentrates on feeding one type of poultry or livestock, is inclined to investigate the idea of buying and operating grinding - mixing facilities. If he grows some of his own grain, he may be swayed in favor of farm grind-mix. If he must buy all his grains, he may prefer to have his grinding done at a stationary mill. Most of the dealers I interviewed stated that only a small number of specialty feeders in their areas had grind-mix facilities.

"Integration plans, especially in raising of broilers, turkeys or layers, slow down the farm grind-mix trend," reported one dealer. "Even owners of 10,000 to 25,000 layer flocks value integration supervision, financing and marketing more than they do any claimed savings from farm grind-mix. In such contracts the feeders must use feeds provided by the integrator."

"The grain bank plan is the best deterrent to farm grind-mix," one custom man said. "Even specialty feeders growing no grain can buy grain when it is low and store in our grain bank until they need it. They save, and they like it."

2. Diversified farmer — Most of these tried hammermills years ago and many discontinued them when mobile milling came in, and when stationary mills offered pickup and bulk service. Many custom men told me that very few diversified farmers in their area are buying grind-mix equipment. The labor problem is so acute for the diversified farmer that he finds it cheaper to have custom work on several farm operations. In the Midwest, at least, many feed men feel that the diversified farmer will continue to be the stronghold for stationary or mobile milling.

"There's no farm mixing around here that I know of," grinned one custom miller in central Illinois. "There are three sizable custom millers in this city of 6,000. All of us charge 10¢ cwt. for grind-mix. Sure, it's too little, but we make up on sales of concentrate, etc. No farmer wants to invest in grind-mix equipment, plus labor, electricity, etc., when he can get a 10¢ cwt. rate. Maybe that's the answer. We're livin'."

3. Farm-mix saturation — Of the 45 feed men interviewed, I discovered the following on farm mix equipment saturation:

Seven per cent reported that there were between 5 and 14 specialty feeders (out of 250-400 customers) operating grind-mix mills, with installation costs from $500 to $3,500.

Twenty-two per cent reported the use of from one to 10 hammermills in their areas.

Seventy-one per cent reported no hammermills operating in their areas to their knowledge. Some of these dealers, however, stated that perhaps five to eight customers on their list had old, unused hammermills in stock, but that such customers preferred mobile or stationary mill service, usually because of labor saving, quality mixing and delivery.

One direct-to-customer mill, which aims its sales pitch at the professional feeder who buys at least 24 tons per year, is urging its customers to buy a locally produced blender. This blender is installed on the auger wagon and goes into operation after the ground grain has been put into the wagon. The blender costs $165 and can do a good job on hog and cattle feeds.

"By urging customers to buy blenders," says an official of this firm, "we insure ourselves of selling concentrate to him, for we have a quality feed and fine management program. We know that the professional feeder would not buy our supplement and then take it to a local elevator with his grain for grind-mix. To protect ourselves, and give the feeder a low-cost grind-mix base, we are promoting this blender."

An Ohio firm, selling to both dealers and farmers—the latter around the home territory—is helping specialty feeders contact farm mixer firms who can install grind-mix equipment for $630 to $935, plus extra for bins and conveying equipment. Such equipment is all automatic, and can produce small quantities of feed as needed, merely by setting dials. Feed production costs in terms of electric power are said to be 8¢ per ton on this deal.

"If we don't help some of these poultry producers set up their own grind-mix plants, someone else will," said one feed company official. "We lose the complete feed business of these producers anyway, but by helping them on the grind-mix equipment, we still get the supplement business. That's a trend in this area with specialty feeders."

4. Pride of ownership—Feed men sometimes forget that the specialty feeder often likes to own grind-mix equipment because of pride of ownership. He also likes to control as much of the feeding of poultry and livestock as he can. He often does not want to be dependent upon a mobile or stationary mill for this part of this operation.

And some specialty feeders do not mind if farm control of grind-mix costs them a penny or two extra either, farm dealers tell me.

5. Cost of farm mix equipment—Costs vary, due to size of operation, number of bins, other equipment, etc. Farm advisors urge most feeders to hold down size of equipment, bins, etc. If the system is automatic, they point out that small quantities of mixed feed can be produced when needed. There is no need, they say, for producing large quantities of mixed feed at one time.

However, while a specialty feeder may list the cost of his equipment and the ingredients he uses, plus electric power, he will seldom figure

in depreciation on equipment, interest on money invested, labor, or taxes. Thus, what he says it costs him to produce a ton of feed may be very deceptive. Some farm-mix makers are advertising that $10-20 per ton can be saved by installing their equipment.

6. Ingredient costs — The farm grind-mix feeder faces the problem of buying ingredients for his feed in quantities and at a price which will hold down his costs. Often he does not have proper wholesale connections, and often he does not wish to buy quantities needed to be quoted at lower prices. One farmer, who heard a university broadcast on building feeds from the bottom up, came to a custom mill man in Illinois to get quotes on materials he would need to make his own feed. He had also been elsewhere. Finally he said to the custom miller, "Say, it will cost me a fortune to make my own feeds. I'll be better off buying from one of you fellows."

If a farmer does buy and install a grind-mix operation, feed men say, he should do a lot of cost probing before he makes the actual purchase, so that he knows what all his costs are.

7. Does the farm grind-mix feeder lose any advantages in doing his own grinding and mixing?—This question is widely discussed by many feed men. Some point out that the man with his own equipment really "goes it alone." He separates himself from the feed dealer's counsel. He usually cannot hope to match the well-informed feed man on nutritional knowledge, based on study and experience with 200 to 400 feed customers. He is less likely to keep up with latest findings in poultry and livestock nutrition, due to a heavy work schedule.

These are the findings, as of January, 1961. They reflect the situation in widely scattered areas. However, price fluctuations, the feed man knows, could change the picture. Farm economics are rarely ever stable.

This was emphasized for me when I asked an Ohio custom mill operator whether there was any integration or farm mixing in his trade area. "Nope," he grinned.

"Any special reason?"

He nodded. "Sure. Eighteen to 19¢ hogs."

New Movie Available On Liquid Supplement

CRETE, NEB.—Feed Service Corp. here has announced the availability of a new 13½-minute, 16-millimeter, full-color, sound movie on wintering cattle with Morea liquid supplement.

The firm says the film shows how Morea liquid supplement provides "improved nutrition and health to cattle on winter ranges." A variety of wintering operations for cows, calves and bulls is included in the roundup of rancher and farmer experiences.

The movie also depicts feeding with storage-tank units that can be filled and left on the range where cattle take the supplement free-choice, the firm said. In this way, "ranchers don't have to fight winter weather and wear out equipment distributing dry supplements," the announcement continued.

Feed Service Corp. said that the film is available to agricultural and livestock organizations and suggests that requests should include a preferred and alternate date for the film's use.

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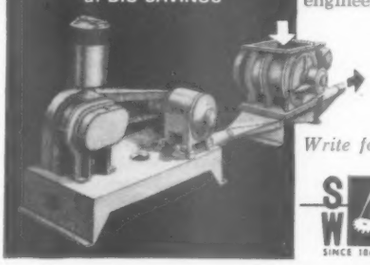

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JOE BROOKS

BY AL P. NELSON

What About Farm Facts?

A heavy thunderstorm had been whipping Hansen's Creek all that afternoon. The result was that the grind and mix customers had slowed down considerably, and Joe's mill staff had time between jobs to sit around and talk about baseball, Russia, women, fishing and the high cost of living.

Milt Peters, who always had pronounced views on all the above subjects, exhausted his knowledge about four that afternoon, and then sauntered into Joe's office. The brown haired feed dealer was bent over a sales promotion schedule for the month.

"Joe," said Milt confidentially, "I have just been engaged in a bull session with the boys, and I have come up with an idea for the business."

Joe lifted his head and gazed quizzically at Milt. "What kind of idea, Milt?"

"Not the kind you think I've got," Milt grinned. "Actually, Joe, I do think of business once in awhile. I'm not that occupied with redheads."

Joe chuckled. "I'm glad to have a policy statement from you, Milt, just for the record."

Milt crossed one leg over the other. "Joe, this is a day of facts, isn't it?"

"Well, I suppose you could say that," Joe agreed. "The more real facts a feed mill owner has, the better he can run his business and increase his chances of making a profit."

Milt smiled happily. "That's what I think. If you know what the average cost is of producing a ton of feed, the average time it takes a man to process a ton through the grinders and mixers, etc., and also what your competitor can do above or below this record, you know what sort of situation you are confronted with."

Accurate Costs on Everything

Joe nodded. "We have accurate costs on everything. You know that, Milt. I know how much each man in the mill sells every month. I know what it costs me per mile to run our trucks. I know if my grind and mix charges pay mill operating costs or whether merchandise sales have to bear part of the load. I know how each department of my business is doing, whether it is making a profit or loss, monthly or annually. But enough of me talking. You came here with an idea."

"Oh, well," Milt said grandly, "I like to discuss things with people who know how to discuss. I appreciate chatting with the boys out there, too, for it sort of heats up the mind, so I can spark off more ideas. But their range of conversation is limited, Joe."

Joe grinned. "Your idea," he persisted. "Not your philosophy."

Milt laughed. 'You always get to the point, Joe. Now, if you run your business largely by the facts you have available to consider, what does the good farmer run his business with?"

"Facts, too," Joe replied. "Or he should. You can't think right, unless you've got some facts to think with."

Milt agreed. "But farmers don't have time to get sharp, concise facts, which will help them operate their farms profitably."

"What do you mean?" Joe looked puzzled.

Milt uncrossed his legs and rubbed his thigh. "Joe, the farmer gets lots of bulletins from county agents and many agricultural magazines. He may read parts of these publications, but not all."

"Why not?"

"He's too busy. He's got too many things to do on the average one-man farm operation. And he's too tired to read as much as other people."

"So?" Joe asked shrewdly.

Useful Farm Facts

Milt chuckled. "It's up to one of the farmer's suppliers—I hope it's Joe Brooks Feed Mill—to give him useful farm facts in capsule form. They've got to be easy to read, brief, quickly understandable. Nothing heavy to read."

"I see," Joe mused, taking the pencil from behind his ear and tapping gently on his desk top. "Have you any specific ideas on this?"

"Sure. You publish quite a large ad each week on some department of the business—feed, fertilizer, or farm supplies. Devote perhaps one third of the space to a farm facts section."

"Like what?"

Milt chuckled. "Well, Joe, right at

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this time of year farmers want to know what prevailing custom rates are. Farm papers publish long lists. Brief them down. List the most used custom jobs and rates in your ad."

"Not a bad idea. We've done something like that before."

"Sure, but repetition is necessary in all good ad programs," Milt pointed out. "And the custom rate information is just part of the program. I notice that farm labor pay rates are 75.7¢ per hour, plus keep this year. Put that in one sentence. Some farmer may not have such information."

Joe nodded. "Yes, that would interest them."

"And," said Milt, consulting a sheet of paper he had taken from his pocket, "we produce about 1,180,000,000 bushels of wheat annually. About 490 million bushels are used in food production, 63 million for seed and 50 million bushels are fed to livestock. The rest, about 577 million, is given away. Put that in brief, concise form."

Facts in Every Ad

Joe's eyes lighted. "Now I get what you are driving at," he said. "Give the farmer about five to eight important facts in every ad—in brief form—to help him think about such subjects."

"Right," applauded Milt. "Something he can read at breakfast, lunch or dinner, without a brain pep up pill. Make that farm fact section in your ad easy to read, and meaningful, and more farmers will read your ad every week."

Joe began to smile. "You are right, Milt. I can keep them interested seasonally in farm facts I want them to know. I can tell them what it costs to produce a dozen eggs when hens first begin to lay in fall and what it costs two months later when they are in full laying production. I can also give many other easily digested farm facts."

Milt smiled. "Let this be education on a piecemeal basis, Joe, and I'll bet lots of farmers will remember more of it than they would if you explained each fact in long, long paragraphs."

Joe chuckled. "Well, Milt, we are going to give your method a real try, at least for six months and ask for comment. I suppose you expect a little bonus for this Saturday."

Milt's handsome face brightened. "Oh, Joe, that would be wonderful. I'm flat broke. I was almost going to call off my Saturday date with my favorite redhead. No one would lend me any more money, but now. . . ."

Joe chuckled. "You'll have to get along on that date with $5, Milt. That's all I can pay now on the idea. If it works, I'll give you more at the end of six months."

Grade A Carcasses In Swine Increased With Fibrous Feeds

MELFORT, SASK. — Efforts to reach Canada's grade A quality in hogs by adding fibrous feeds to standard finishing rations were highly successful at the experimental farm here, says Dr. S. E. Beacom.

But the Canada Department of Agriculture animal nutritionist found that while he was able to boost the percentage of grade A carcasses considerably, he was not always sure of showing an extra profit. For instance, on one mixture he raised the percentage of grade A carcasses from 58 to 92 but found his financial return per hog was $4.90 less than the $28 per 100 lb. he would have got for a grade A hog receiving undiluted standard finishing ration.

Dr. Beacom got this result from a group of hogs which were fed equal amounts of an oat-barley finishing ration and an alfalfa meal-oat hull mixture. The lower return resulted from slower gains, less feed efficiency and a reduced dressing percentage.

Less startling results were obtained from other mixtures. When a wheat-barley finishing ration was used and the alfalfa meal-oat hull diluent was reduced to 15% of the feed, net returns per hog carcass increased by $1.52; when the diluent was doubled to 30% the net returns increased only 66¢, and at 45% the net returns fell by 66¢—using $28 per 100 lb. (market price plus federal quality premium) as the basis of comparison.

When oat hulls were used as the diluent at the levels of 15, 30 and 45% of the total ration, the net return per pig was reduced by 48¢, $1.71 and $2.19, respectively.

Dr. Beacom concluded that the kind of basic ration, the type of diluent and the strain of hog were all factors to be taken into consideration when attempting to increase the percentage of grade A hogs by diluting the finishing ration.

Fuller Co. Transfers Ralph R. Clark, Jr.

CATASAUQUA, PA.—The transfer of Ralph R. Clark, Jr., from its home office to its western division headquarters in San Francisco was announced here by Fuller Co.

Ralph R. Clark

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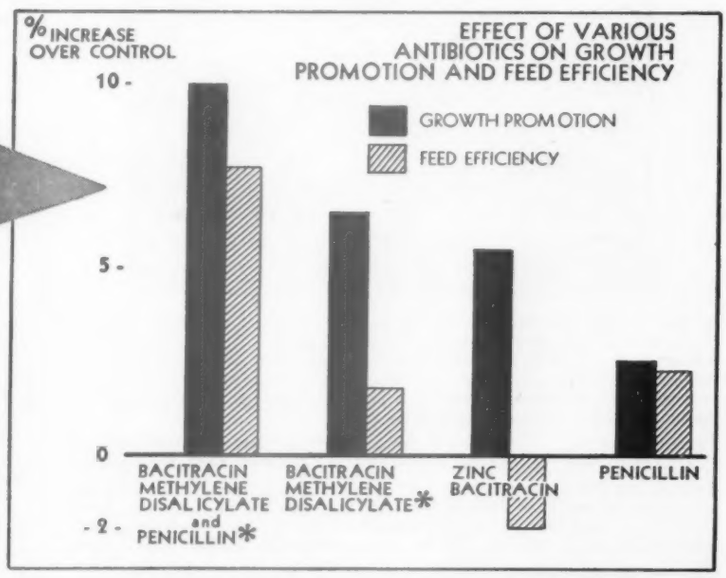

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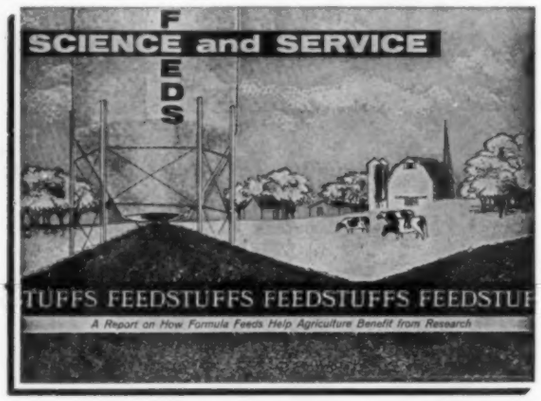
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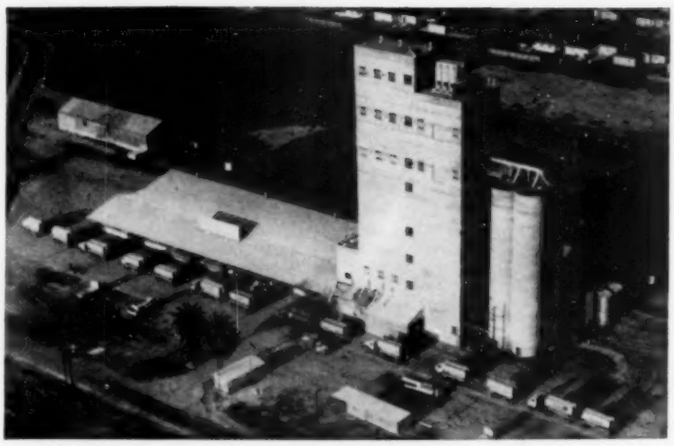


NEW MILL—This is the fully automated feed plant of Nulaid Farmers Assn. at Turlock, Cal. The mill serves one of the most rapidly growing poultry and livestock areas in California.

Fully Automated California Plant in Operation

A new fully automated feed mill of Nulaid Farmers Assn. is being operated at the organization's Turlock, Cal., branch. Nulaid (formerly Poultry Producers of Central California) constructed the mill to serve one of the most rapidly growing poultry and livestock areas in California. The Turlock mill replaces mills at Merced and Stockton.

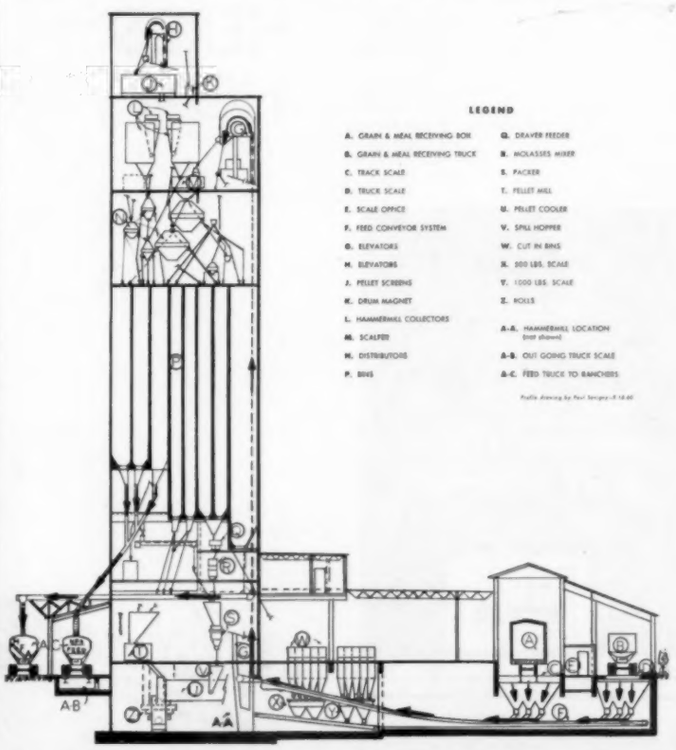
The structure was built by Weitz-Hettelsater Engineers of Kansas City. The mill is designed to handle all incoming ingredients in bulk.

The heart of this mill is the control board panel which might be compared to data processing equipment, well known and used by industry. Individual panel boards, each wired into a specific formula, are inserted into the central unit. In turn the control board panel sends out electrical impulses, in regular sequence, to various parts of the feed system. These electric impulses open gates and discharge various ingredients into scale hoppers. From the hoppers the feedstuffs go to the mixing units. Automation, it is noted, does not stop here—the finished product is next routed by remote control to various parts of the mill. No matter where the feed is to be moved, it is done by electronic operation, Nulaid officials point out.

The mixing system is described as follows:

(a) Short mix unit—This includes 20 one-ton bins for miscellaneous premixes, salt, etc. There are 10 bins feeding into a 500-lb. scale and 10 bins feeding into a 1,000-lb. scale. When the scales have completed weighing ingredients, the materials are "pumped" by air to a "holding hopper."

(b) Major ingredient unit—There are 32 bins of various sizes, from 60 tons down to 8 tons. When one mixer is empty, the "holding hopper" mentioned above and both 5,000-lb. scales automatically dump into mixer. After the mixing cycle has been completed, the mixer dumps into a surge hopper



PROFILE SKETCH—Here is a profile sketch of the new Nulaid mill at Turlock, Cal. The diagram, it is pointed out, shows how the operation uses gravity extensively. The profile is drawn of the south side and does not show the molasses or tallow tanks.

from which the feed goes to "take away" mash elevator. There are two mixers which mix alternately, thus increasing mixing capacity approximately 50% over one mixer, Nulaid engineers point out.

The Turlock mill contains 16,000 sq. ft. The hammermill and pellet mills are located on the lower floors. Upper floors house mixing equipment, storage bins, grain cleaners, etc.

An important adjunct to the mill are the facilities for weighing in of ingredients and weighing out of mixed feeds. This is done by both a rail and truck scale. Molasses and fat tanks are located on the outside of the building. Auxiliary tanks are located in the basement and maintain the ingredients at the proper temperature for mixing.

There are seven large grain bins with a capacity of approximately 2,700 tons located outside the mill structure. Grain is unloaded by gravity from trucks and rail cars and carried by belts to elevators. While traveling on the belts, the grain passes beneath a suction system that removes any straw, sticks, etc.

An air filtering system removes practically all dust. The mill is piped with a vacuum cleaning system to facilitate the removal of sweepings.

The new mill initially has produced approximately 400 tons of feed daily on a one shift basis. An additional shift is expected during the turkey season.

"A very important part of Nulaid Farmers Assn.'s feed manufacturing program is quality control," officials note. "This begins with the quality control of ingredients and carries through to the final mix." The organization's Turlock mill personnel is charged with taking samples of all grains and individual ingredients prior to their being unloaded. Visual examination is used, along with a system of sending samples to the organization's quality control laboratory at Petaluma. A final step is the examination of final mixes for granulation, color, pellet quality, etc.

One of the features of the new mill is a stand-by reservoir. This was constructed specifically for added fire protection.

Nulaid serves an area from Central California north to the Oregon border. Besides the Turlock mill, there are three other mills operating in Petaluma, Salinas and Yuba City. Nulaid manufactures a complete line of poultry feeds, dairy feeds, and feeds for other classes of livestock. Norman F. McIntyre is general manager of the organization and Robert G. Christensen is production manager.

Speakers Named for Poultry Day Program

WILLIMANTIC, CONN.—Dr. Willard W. Cochrane and Dr. R. L. Kohls are among the speakers who will appear on the poultry day program at the University of Connecticut here June 19.

Dr. Cochrane, nationally known as farm advisor to President Kennedy during his campaign, and now director of agricultural economics, U.S. Department of Agriculture, will discuss "Opportunities to Improve Farm Income Through Marketing Programs."

Dr. Kohls, who is a Purdue University authority on farm marketing and pricing, will speak on the "Disappearance of Terminal Market Pricing."

The program, which will include exhibits, movies and question and answer sessions, will be focused on egg collection and egg processing, dead bird disposal systems and ventilation.

Question and answer sessions will be in progress all afternoon to take care of individual problems. Speakers and topics will include Ralph Prince, University of Connecticut, ventilation problems; Harry C. Whelden, University of Maine, dead bird disposal, and Philip G. Stiles, University of Connecticut. Carl Otte, department of agriculture, will lead discussions on egg collection and processing.

Movies of automation of egg production and processing will be shown on a continuous basis during the day.

The afternoon program will be capped with a panel discussion on "Evaluating Egg Collection and Egg Processing Equipment." Mr. Stiles will moderate the panel, which will include Carroll Dunham, Gill Eddy, Edward Micka, Melvin Strickland, Mr. Whelden, Abraham Raskin and Robert Marshall.

Dr. Cochrane and Dr. Kohls will speak during the evening program, which will begin at 7:30 in the College of Agriculture Auditorium.

EGG CONSUMPTION UP

WELLINGTON, NEW ZEALAND —Maybe the U.S. will have to see how they do it in New Zealand. This country has the happy problem of providing enough eggs to meet an increasing per capita demand. Last year New Zealanders ate an average of 300 eggs per person. Now the booming poultry industry has moved into fifth place among the country's primary industries.

Officials said they thought that only Canada had a higher per capita egg consumption, but the way New Zealand's is increasing, it may be that this country will soon lead the world.

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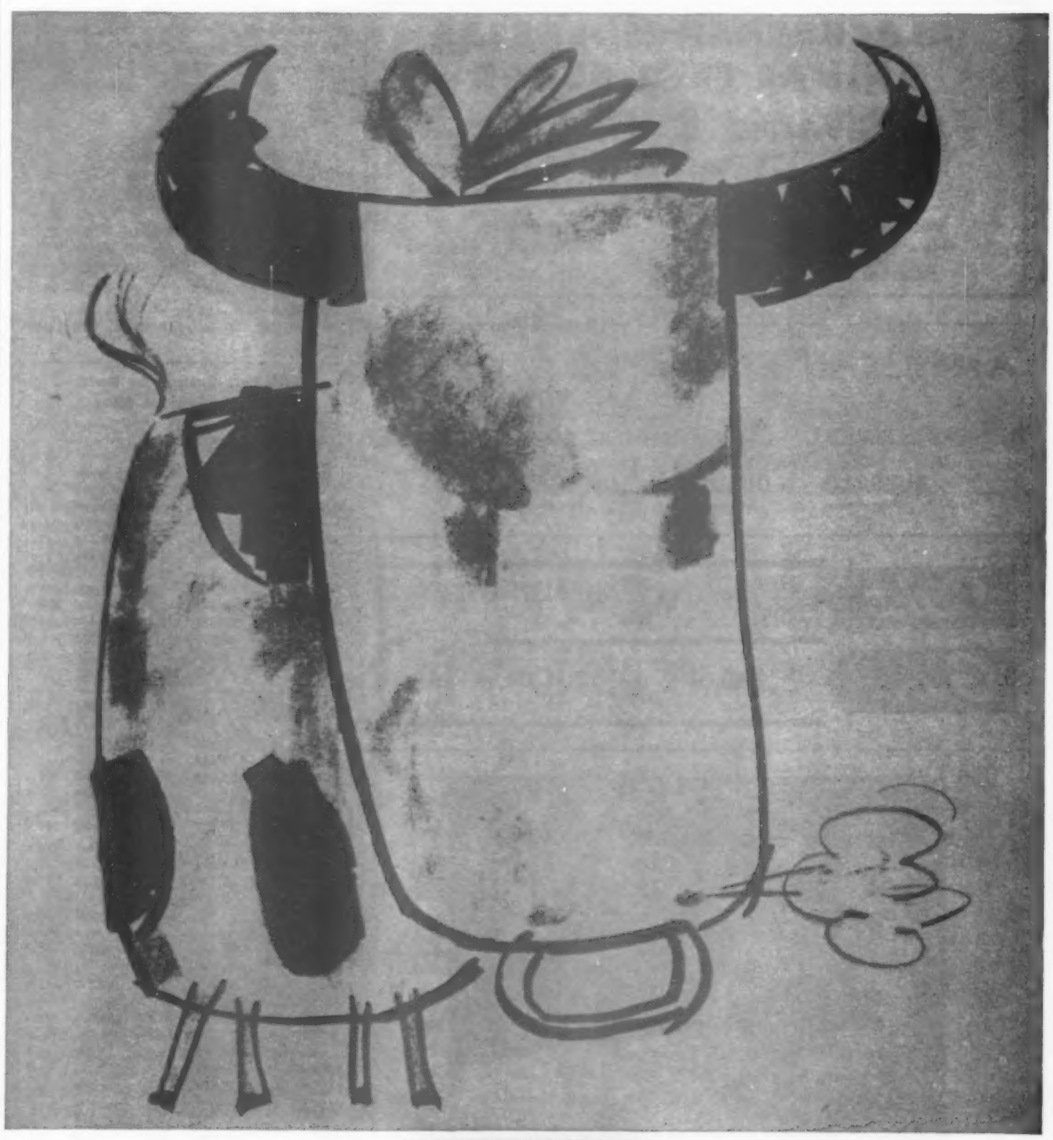

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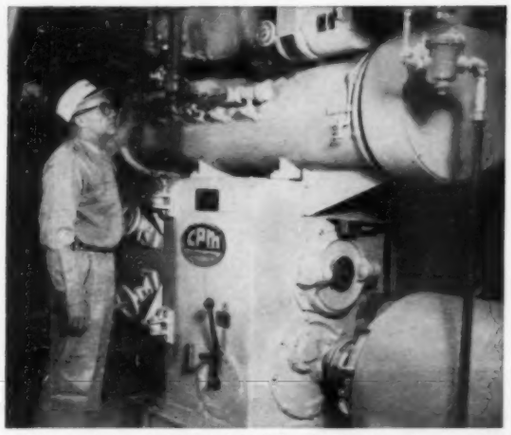

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Broiler, Egg, Farm Chicken Income Up

WASHINGTON — The 1960 gross income from eggs, farm chickens and commercial broilers was up $261 million from $2,738 million in 1959 to $2,999 million.

Those final official figures for 1960 are reported by the U.S. Department of Agriculture Statistical Reporting Service.

Of the 1960 gross income, 61% was from eggs compared with 60% a year before, 34% was from commercial broilers as was the case the previous year, and 5% was from farm chickens compared with 6% for 1959.

The report indicates that 95% of the gross income, $2,853 million, was for the cash receipts from the sale of eggs, broilers and farm chickens. The remaining 5% represents the value of products consumed on farms where produced, the report said.

The report went on to state that a record number of commercial broilers were produced in 1960, 1,796 million, up 3% from 1959. Egg production was 61,377 million, 3% less than 1959 production, 63,335 million. Farm chicken production amounted to 261 million birds compared with 311 million in 1959.

Broilers

The record 1,796 million commercial broilers produced in 1960 totaled 6,020 million pounds live weight, according to the report. Average price received by producers for this record production was 16.9¢ lb. live weight compared with 16.1¢ in 1959. Gross income from broilers was $1,015 million, up 10% from 1959.

Georgia led all states in the number of broilers produced with 18% of the national total. Following were: Arkansas and Alabama, 10%; North Carolina, 9%; Mississippi, Texas and Maryland, 6%; Delaware, 5%, and California, Virginia and Maine, 3%. These 11 states accounted for 79% of the 1960 broiler production in the U.S., the statistics showed.

Death losses during 1960 of chickens on hand Jan. 1, 1960, was 19%, about the same as a year earlier.

Combined sales of farm chickens and commercial broilers in 1960 totaled 6,924 million pounds, 1% more than the combined sales in 1959. Total value of birds sold was $1,125 million compared with $1,045 million in 1959. Commercial broiler sales amounted to 87% of the total pounds sold compared with 84% of the total sales in 1959.

On the price front on the other commodities, the average price per dozen eggs in 1960 was 36.0¢ compared with 31.4¢ in 1959. The average price per pound live weight for farm chickens sold was 12.2¢ compared with 11.0¢ in 1959, the report showed.

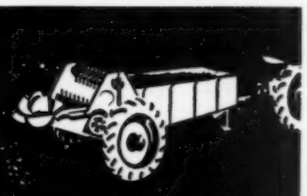
Egg Production

Egg production in 1960 totaled 61,377 million eggs compared with 63,335 million in 1959. The number of layers on hand during the year averaged 294 million—4% less than the 306 million average number on hand in 1959. The rate of egg production per layer on hand was 209 for 1960 as compared with 207 for 1959, USDA said.

The number of chickens raised on farms in 1960 totaled 330 million—about 14% below the 1959 number and the smallest number since records were originated in 1909.

TABLE 1. Commercial Broilers: Production and Price

State and division	1959 Number produced thousands	1959 Price per lb. cents	1960 Number produced thousands	1960 Price per lb. cents
Maine	58,169	17.4	54,148	17.7
N. H.	6,606	16.8	5,615	17.8
Vermont	889	17.2	507	17.7
Mass.	11,046	17.2	9,500	17.6
R. I.	1,649	17.7	1,550	18.2
Conn.	26,713	17.4	22,184	17.9
N. Y.	11,604	21.0	10,328	20.1
N. J.	5,800	23.9	5,500	24.3
Pa.	40,449	19.3	37,725	18.9
N. A.	162,925	18.4	147,057	18.5
Ohio	15,993	16.5	14,017	18.1
Ind.	39,523	16.0	36,102	17.0
Ill.	7,064	15.9	5,487	17.4
Mich.	3,600	20.5	3,200	21.5
Wis.	19,682	16.6	20,666	17.4
E. N. C.	85,862	16.5	79,472	17.6
Minn.	4,977	17.8	6,868	17.5
Iowa	3,354	16.8	4,025	17.5
Mo.	39,200	15.0	31,750	16.3
Neb.	2,620	15.9	2,175	16.7
Kansas	1,991	16.6	1,891	17.2
W. N. C.	52,142	15.5	46,709	16.7
Del.	85,127	17.0	91,343	17.6
Md.	93,289	17.0	102,812	17.6
Va.	53,971	16.1	54,511	16.7
W. Va.	27,525	16.9	24,772	17.1
N. C.	137,400	15.2	156,600	16.0
S. C.	16,996	15.5	17,480	16.3
Georgia	303,031	15.3	320,250	16.2
Florida	10,413	16.1	10,101	16.8
S. A.	727,752	15.9	777,869	16.6
Ky.	17,575	15.3	16,520	16.3
Tenn.	32,686	15.2	33,340	16.1
Ala.	158,248	15.1	176,654	16.2
Miss.	107,629	15.2	115,900	16.2
Ark.	163,997	15.0	180,397	16.3
La.	21,647	15.5	20,250	16.2
Okla.	7,457	15.1	6,711	16.3
Texas	115,193	15.5	105,203	16.7
S. C.	624,432	15.2	654,975	16.3
Idaho	3,348	18.6	3,850	18.9
Colo.	1,245	18.0	1,183	18.5
Ariz.	704	21.0	697	21.1
Utah	2,051	20.0	1,846	19.3
Wash.	15,985	18.6	15,505	19.1
Oregon	10,783	17.8	11,738	18.6
Cal.	49,753	18.9	54,817	19.0
Western	83,809	18.7	89,636	19.0
U. S.	1,736,922	16.1	1,795,718	16.9



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Elmer Wheeler

H. B. "Doc" Sharer

Dr. Charles G. Noble

Speakers Named for Eastern Federation of Feed Merchants Event

LAKE KIAMESHA, N.Y.—If early advance hotel reservations are a dependable barometer for measuring attendance at the annual convention of the Eastern Federation of Feed Merchants at Hotel Concord, Lake Kiamesha, N.Y., June 11-13, a new all-time high registration of feed and allied commodity delegates at any northeastern convention will be recorded, officials announced.

The convention program is described as "one of real strength that will bring to the platform authoritative and forceful speakers."

Robert A. Kavesh, associate professor of economics and finance, New York University, will trace where the American economy is heading. Dr. H. E. Bechtel, director of technical service and development, Dawe's Laboratories, Inc., has as his subject "Dairy Nutrition New Frontier." Dr. Stewart Johnson, professor, agricultural economics, University of Connecticut, will word-picture the northeastern dairy industry score, analyzing the impact of proposed milk production quota, larger area milk marketing orders and the National Milk Sanitation Act.

For handling the subject of selling and merchandising, two speakers have been picked. One is Elmer Wheeler, chairman of the National Association of Travelling Salesmen and sales training consultant; the other is H. B. (Doc) Sharer, sales training specialist, U.S. Rubber Co.

Dr. Charles G. Durbin, veterinary medical director, Food and Drug Administration, will clarify the regulations on the use of drug and chemical additives in feeds.

What can the feed supplier do to help poultry product marketing will be answered by Harold W. Bermender, egg and poultry marketing specialist, H. K. Webster Co., Lawrence, Mass. He has a broad experience in the poultry product marketing field.

"Have You Got What It Takes?" will be the theme of Dr. Charles C. Noble, dean of Hendricks Chapel, Syracuse University. His talk will be on the need for building better relationships with both employees and customers.

For golfers, there will be a tournament for men with an anticipated 100 feed men teeing off. There is also a tournament for the ladies.

The social aspects of the convention include a cocktail and social hour, Broadway entertainment, dancing and banquet.

Winners in the Mill Employee Safety Contest and in the Dealer Farm Youth Encouragement Contest will be recognized and honored during the convention and presented awards.

A. O. Smith Harvestore Firm Elects Officers

KANKAKEE, ILL. — The board of directors of A. O. Smith Harvestore Products, Inc., elected officers at its first meeting, it was announced by Arthur D. Hyde, president and chief executive of the company.

Arthur D. Hyde

A. O. Smith Harvestore Products, Inc., has been set up as a subsidiary of the A. O. Smith Corp. of Milwaukee, Wis., to manufacture and distribute the Harvestore sealed farm storage structure, and its industrial counterpart, the Permaglas Storage Unit, and allied equipment in the U.S. and Canada. The subsidiary will have its headquarters in Kankakee, Ill., where it formerly was a part of A. O. Smith's Permaglas division.

Besides Mr. Hyde, other officers of A. O. Smith Harvestore Products, Inc., are:

Lee Osborne, vice president in charge of marketing and development; Alvin E. Selkurt, controller and assistant secretary-treasurer; Robert Rietz, treasurer, and James Johnson, secretary. Mr. Johnson and Mr. Rietz, who are respectively secretary and assistant secretary-treasurer of the A. O. Smith Corp., will remain in Milwaukee. The other officers will have their headquarters at Kankakee.

Other Position Heads

Clifford Pester, formerly general manager of manufacturing and contract products for the Permaglas division, will be general manager of manufacturing operations. Morris Fonda, formerly general sales manager, will be director of marketing. The rest of the organization will remain substantially the same, Mr. Hyde said.

Members of the board of directors are L. B. Smith, president of the A. O. Smith Corp., who will serve as chairman; Mr. Hyde, F. S. Cornell, M. J. Vollmer, and Arthur O. Smith, all directors of the parent company. Mr. Cornell and Mr. Vollmer, respectively, are executive vice president and vice president-treasurer of the parent company. Arthur O. Smith is a partner in the Manning & Smith Engineering Co. Mr. Hyde recently resigned as executive vice president of General Mills, Inc., Minneapolis.

In addition to its sealed and glass protected steel storage units for farm and industry, which are produced at Kankakee, the subsidiary will manufacture and market related equipment for automated livestock and industrial materials handling at its plant at Delphi, Ind.

Foreign distribution, except for Canada, will be handled through the parent company's international subsidiary, A. O. Smith International S. A.

Oilseed Processors Elect M. C. Parker

BILOXI, MISS.—At its second annual convention in Biloxi, the Mississippi Valley Oilseed Processors Assn., Inc., named M. C. Parker of Memphis, Tenn., president. He succeeds A. J. Vaughan of Corinth.

Joe C. Brady of Helena, Ark., was elected to serve as vice president.

New directors named are: F. H. Ferrell, Oceola, Ark., and N. F. Howard of Greenwood, Miss.

Some 300 persons were registered for the two-day session which was held at the Buena Vista Hotel.

Reporting on the freight rate situation at the meeting, W. S. Brunson, account manager for Ribe & Co. of Birmingham, Ala., said southern cottonseed producers will benefit indirectly through reduced rates for the shipping of crude or refined oil to eastern markets, which are expected to enable them to compete with rival oil producers in other areas.

"We expect the southwestern lines to take the same step," Mr. Brunson said. He noted there has been considerable activity in adjusting rates of late because of the competition among the various kinds of freight carriers and the competition between producers of soybean and cottonseed oils.

Reg Robinson of Los Angeles, president of the National Cottonseed Processors Assn., told convention members that under the federal farm program, which has steadily caused less cotton to be planted, cottonseed processing has become a "captive industry." He said further decreases in the amount of cottonseed that can be produced in this country would make worse an already "serious" situation for the industry.

Cottonseed production, he said, has remained static for the past 40 years and is still the same today, 6 million tons, that it was in 1920.

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Here's the professor's advice to the feed manufacturer . . .

. . . "I believe there is little doubt but what Feedstuffs is the business publication which would best serve your needs. This is an outstanding publication without rival within its field. I am sure it will fulfill your interest in 'ingredient market news, services available, technical information, innovations, etc.'"

So wrote a professor of animal science at a large midwestern university in response to a letter from a Jamaican feed manufacturer asking which magazine would be most helpful in his business.

There are a lot of hard-headed businessmen in the feed industry who agree with the professor . . . nearly 14,000 of them subscribe to FEEDSTUFFS . . . because it helps them keep abreast of their fast-paced industry.

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No. 7457—Quick-Opening Bag Closure

Development of a quick-opening closure for sewn open-mouth and sewn valve multiwall paper shipping bags, has been announced by the Bemis Bro. Bag Co.

Developed by the company's engineering department, the Bemi-Strip closure, as it is being marketed, is identified by a red tab at the seam of the bag. Used in actual packing and shipping operations, the Bemi-Strip closure has proven to be completely effective in withstanding ordinary stretch and breakage and sifting of product at the seam. It offers protection at the bag seam equal to methods of closure sewn bags.

A time and labor saving feature, the Bemi-Strip tab is said to be as simple to open as the band on a package of cigarettes. There is no contamination of product from loose threads and the clean opening permits re-use of the bag.

The tab, 3 in. in length and ⅜ in. in width, is placed on the factory-closed end of the bag, usually at the top. The tab serves as a point of contact for the thumb and first finger to initiate the opening of the package.

A gentle pull snaps the tab loose from the bag seam. A swing of the arm frees the sewing thread and literally pops the bag open, ready for emptying of contents. The bag can be opened partially to form a filling spout, or completely, as desired.

The Bemi-Strip multiwall bag can be used for feed, fertilizer, seed, flour, grain, salt, ready-mix cements and chemicals, to mention a few successfully shipped products.

For additional information, check No. 7457 on the coupon and mail.

No. 7455—High-Speed Weight Indication

A high-speed electronic dial indication for load cell scales has been announced by Toledo Scale, division of Toledo Scale Corp.

The intrinsic speed advantages of electronic scales can now be fully realized, a company spokesman said. A weight reading may be taken in less than 2½ seconds from the time a load is positioned on the weigh platform.

It is said that this fast weight indication is accomplished with a new automatic two-speed indicator drive. The unit combines the separate advantages of slow or fast indicator travel. The fast speed of the Toledo drive unit moves the indicator to within a few graduations of the actual weight. At this point, the drive automatically drops to a slower speed which continues to move the indicator the remaining distance to the actual weight smoothly and without interruption. Thus, both the disadvantage of high-speed indicator "jitters" and the lack of speed are said to be automatically eliminated.

The electronic dial also tends to eliminate the effect of excessive vibrations around the scale, causing indicator oscillation at the actual weight, the company said. The unit is said to be particularly applicable where speed and stability in indication are desired.

This unit, which does not alter the exterior appearance of the dials, is available in capacities in which Toledo dial scales are built. For additional information, check No. 7455 on the coupon and mail.

No. 7454—Storage Bins

Black, Sivalls & Bryson, Inc., has announced the availability of two new King Size bins, 48 ft. by 40 ft., 66,850 bu. capacity and 48 ft. by 24 ft., 42,450 bu. capacity.

Company officials say that this new size marks a breakthrough in stiffened corrugated structures that reduce the storage cost per bushel to an all time low.

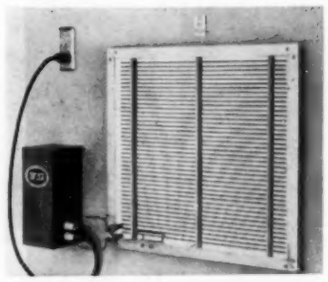
It is said that the new bins were engineered to meet the needs of increased storage at the lowest possible construction and erection cost. The addition of these two new sized bins provides selection range from 5,389 bu. to 66,850 bu. Additional literature on the bins is available by checking No. 7454 on the coupon and mailing.

No. 7462—Insect Exterminator

Sanikill, a new product for electrical extermination of insects, has been announced by Technical Industries, Inc.

It is said to be positive, low cost and safe, completely harmless to humans and livestock, but deadly to insects. Electrical extermination is positive and instantaneous. No immunity can be developed by insects against Sanikill, say company officials.

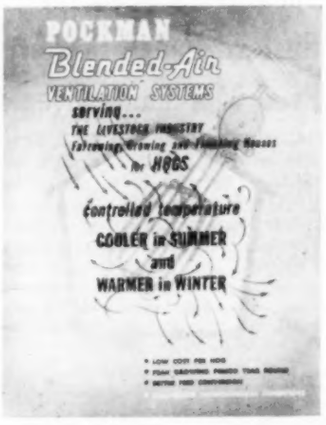
Easy to install, low in cost and constructed of anodized aluminum and stainless steel, Sanikill is said to offer maintenance-free service for years. It is resistant to both corrosion and humidity.



For additional information, check No. 7462 on the coupon and mail.

No. 7460—Temperature Control for Hogs

Literature describing the use of a controlled temperature system for farrowing, growing and finishing houses for hogs has been made available by the L. A. Pockman Manufacturing Co.



It describes how the firm's Blended-Air Ventilation System keeps houses cooler in summer and warmer in winter by automatically controlled environmental conditions inside the house regardless of outside weather.

For additional information, check No. 7460 on the coupon and mail.

No. 7461—Adjustable Elbow Pipe

An all new "infinitely adjustable" elbow pipe connection has been announced by Sweet Manufacturing Co.

The "Jiffy Joint," made of two die-formed pieces, is said to adjust easily and quickly to every needed angle with a two-piece, flanged-end draw band. No time-consuming knock-down and re-assembly is required.

The need for hazardous, unsatisfactory welding is completely eliminated, it is claimed. Absence of welding means a smoother inside surface, expediting the free flow of all grains, feeds and other materials. It is said that the elbow offers complete accuracy of fit permitting faster, tighter installation. Flanged ends close over adjoining pipe and surfaces for leak-proof connection.

Company officials report that in addition to every-angle adjustability, accurate fit, and smoother material

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- ☐ No. 7454—Storage Bins
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- ☐ No. 7457—Quick-Opening Closure
- ☐ No. 7458—Grain Probe
- ☐ No. 7459—Weighing Feeder
- ☐ No. 7460—Temperature Control
- ☐ No. 7461—Adjustable Elbow Pipe
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- ☐ No. 7463—Feed Flavoring Catalog
- ☐ No. 7464—Hand Truck

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flow, the "Jiffy Joint" lasts longer because of heavy-gauge steel durability. Attached to pipes, distributors, or valves, it is said to give a lifetime of use.

For additional information, check No. 7461 on the coupon and mail.

No. 7459—Weighing Feeder

B-I-F Industries has announced the availability of its Model 37-02 Belt Gravimetric Feeder which is said to continually weigh and feed any dry, flowable material at a fixed rate.

The unit, described as ruggedly built, compact and completely automatic in operation, feeds a maximum of 2 cu. ft. per minute over a 100:1 range within an accuracy of plus or minus 1% of the set feed rate.

Company officials say that compact construction of the Model 37-02 makes it possible to mount on, over or beside other equipment.

Wide range is said to be infinitely variable in any increment from 1 to 100. Safe construction is assured in the one-piece, all-welded steel housing with large transparent removable doors, large belt guard and built-in alarm system.

For additional information including a four page, two-color catalog that shows illustrations, dimension drawings, installation diagrams, and description of operations, check No. 7459 on the coupon and mail.

No. 7456—Fiberglass Tanks

A 600 gal. molded fiberglass tank that offers a combination of big storage capacity and light weight has been announced by the Tryro Manufacturing Co.

Company literature states that the tank eliminates all rust and corrosion, reduces maintenance to practically nothing, and assures years of use without replacement. Because it's translucent, the liquid level can be seen at all times.

Nine different styles and sizes are available in capacities from 113 to

600 gal., for both low-pressure and non-pressure service.

For additional information, check No. 7456 on the coupon and mail.

No. 7463—Feed Flavoring Catalog

A scientific discussion of flavoring in feeds is now available in a 16 page catalog called "Flavorstat," according to announcement by the Flavor Corporation of America.

The catalog is said to be "an in-

valuable reference for research proven feed flavors." A complete list of these flavors and their prices are included along with information on other Flavor Corporation chemical products.

For additional information, check No. 7463 on the coupon and mail.

No. 7464—Hand Truck

A new hand truck designed for the easy tilting of loads as heavy as 1,000 lb. has been announced by Valley Craft Products, Inc. It is available with two-wheel safety brakes.

Designed primarily for handling bags of material such as grain, fertilizer and cement stored on pallets, this truck is equipped with a special shoe which automatically locks it into tilting position as the truck is moved vertically against the load and allows the tipping action to be accomplished with a minimum of effort.

Sizeable savings in pallet costs can be made, the manufacturer claims, through the use of the Ezy-Tilt Pallet Truck since the double fork design of its shoe allows an inexpensive pallet to be used, as the pallet can be reinforced by a center cleat.

Safe tipping of heavy loads is also claimed as the frame of the truck is in contact with the load at all times, and when the load is tilted to an approximate 45 degree angle it reaches a balance point where the load will actually rest without the operator touching the truck.

This truck is also available with two wheel brakes which provide safety when moving heavy loads down ramps out of box cars and truck bodies.

Constructed from heavy gauge steel tubing and equipped with 10 in. replaceable hard rubber tired ball bearing wheels, this tilting truck, it is said, will provide many years of efficient service.

For additional information, check No. 7464 on the coupon and mail.

No. 7458—Pneumatic Grain Probe

A vacuum-powered pneumatic probe that uses airpower to penetrate and take samples from stored grain has been introduced by Cargill, Inc.

The unit, called "Probe-A-Vac," is said to as much as double the speed and increase the accuracy with which large piles of grain can be sampled, inspected and treated.

The unit uses air circulation through a tube-within-a-tube and a special pointed nozzle to "eat through" a pile of grain. Company officials say that two men can make

three probes hourly in wheat 50 ft. deep.

Suction in the inner tube "airlifts" the grain into a cyclone separator where it is held for sample. The probe can draw a representative cross-section sample of the entire pile of a portion of grain from any desired depth. There is no waiting for the entire probe to be withdrawn before the sample can be inspected.

Maximum recommended probe depth is 72 ft., although tests have proved successful in bins more than 80 ft. deep, state officials.

Key to the unit is said to be the probe-point nozzle which guides grain into the air flow. Nozzles are available for both fine and coarse grains. The probe tubing is made in interlocking 6 ft. sections.

The unit can be used to place temperature cables. A special fitting on the nozzle holds the cable as the probe is forced down, then leaves it in place in the pile as the probe is withdrawn.

"Hot spots" due to insect damage can be treated by penetrating the infested area and pouring insecticide through the tube. The fluid distrib-

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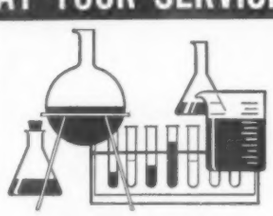

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utes through the nozzle openings into the trouble spot.

The unit is made in two models. The first carries a 1 h.p. motor and is designed for probes of up to 30 ft. The second is equipped with a 1.5 h.p. motor for deeper probes. Both motors are small, high speed 110 volt electric open types.

For additional information, check No. 7458 on the coupon and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number of the coupon and forwarding it to Feedstuffs.

No. 7398—Ventilating fan for poultry houses, Keen Manufacturing Corp.

No. 7399—Carload grain hopper scale, Cardinal Scale and Manufacturing Co.

No. 7400—All - purpose blender, Thomas Conveyor Co.

No. 7401—Sedimentation test kit, Seedburo Equipment Co.

No. 7402—Rear roll-out nests, the Fulton Co.

No. 7403—Control level switch, Hawkeye Steel Products, Inc.

No. 7404—Twin screw feedmobile mixer, Daffin Manufacturing Division, Daffin Corp.

No. 7405—Dehy comparison booklet, the National Alfalfa Dehydrating & Milling Co.

No. 7406—Caged layer folder, Babcock Poultry Farm, Inc.

No. 7407—Dual systems for mobile mills, Barnard & Leas Mfg. Co., Inc.

No. 7408—Antibiotic water medication, Dr. Salsbury's Laboratories.

No. 7409—Circular bunk feeder, Wyatt Manufacturing Co.

No. 7410—Filter Cleaning Service, Day Sales Co.

No. 7411—Molasses feed mixer, Sprout, Waldron & Co., Inc.

No. 7412—New grain equipment line, the Dempster Mill Manufacturing Co.

No. 7413—Hog feeder, Hawkeye Steel Products, Inc.

No. 7414—Bin flow device, Bin-Dicator Co.

No. 7415—Corn sheller, C. O. Bartlett & Snow Co.

No. 7416—Coccidiosis booklet, Dr. Salsbury's Laboratory.

No. 7417—Portable pneumatic unit, Fuller Co.

No. 7418—Dial indicators, Fairbanks-Morse & Co.

No. 7419—Equipment leasing, financing, Seedburo Equipment Co.

No. 7420—Screw conveyor torque, Sioux Products.

No. 7421—Mobile pelleting unit, Daffin Mfg. Division, Daffin Corporation.

No. 7422—Feed weighing truck, Conveyor Co.

No. 7423—Batch mixer, H. C. Davis Sons' Manufacturing Co.

No. 7424—Pallet bins, Simpson Lumber Co.

No. 7425—Feed flavoring, Flavor Corp. of America.

No. 7426—Motor couplings folder, Link-Belt Co.

No. 7427—Plant safety kit, Towmotor Corp.

No. 7428—Grain storage building, Armco Drainage & Metal Products, Inc.

No. 7429—Multi-purpose spreader, Iowa Portable Mill Co.

No. 7430—Liquid floor coating, Garland Co.

No. 7431—Mobile mill bulletin, Seco, Inc.

No. 7432—Poultry house ventilation, L. A. Peckman Mfg. Co.

No. 7433—Belt conveyor, Finco, Inc.

No. 7434—Roller mill, The Mooers Manufacturing Co.

No. 7435—Drop bottom mixer, Hayes & Stolz Industrial Manufacturing Co., Inc.

No. 7436—Hand truck, Southeastern Manufacturing Co.

No. 7437—Automated cage equipment, Keen Mfg. Corp.

No. 7438—Egg vending machine, Tobias Enterprises.

No. 7439—Grain roller, The Roskamp Huller Mfg. Co., Inc.

No. 7440—Grain cleaner, Myers-Sherman Co.

No. 7441—Gas-powered lift trucks, Automatic Transportation Co.

No. 7442—Point-of-sale decal signs, Meyercord Co.

No. 7443—Feed Moisturizer, Technical Industries, Inc.

No. 7444—Poultry lighting program, Heisdorf & Nelson Farms, Inc.

No. 7445—Horizontal pellet cooler, Wenger Mixer Mfg. Co.

No. 7446—Portable electric vibrator, The Cleveland Vibrator Co.

No. 7448—Bulk feed truck bodies, The Baker Equipment Engineering Co.

No. 7449—Recording dry feeder, Wallace & Tiernan, Inc.

No. 7450—Flavor bulletin, Magnus, Mabee & Reynard, Inc.

No. 7451—Control panel for batch drier, Shanzer Manufacturing Co.

No. 7452—Meat meal report, C. W. Sievert.

No. 7453—Remote screen change mill, Jacobson Machine Works, Inc.

U.S. Feedstuffs Exports Show Rapid Climb

WASHINGTON — Exportation of certain ingredients and mixed feeds from the U.S. has expanded rapidly in recent years, the April Foreign Crops and Markets report from the U.S. Department of Agriculture indicates.

Exports of these feedstuffs in 1959-60 totaled 419,000 tons—more than four times greater than the 99,000-ton average for the five years beginning July 1, 1950, and ending June 30, 1955. (See Table 1.)

USDA says exports of fodders and feeds totaled 173,000 tons in 1958-59. This, too, is about four times the 47,000 tons of the 1950-54 average. Shipments, however, went as high as 233,000 tons in 1956-57 and down to 98,000 the following year.

Exports of poultry feeds reached 116,000 tons in 1958-59 and showed a gradual yearly increase from the five-year average of 29,000 tons.

Table 2 shows that the bulk of U.S. feed exports go to the Western Hemisphere and Europe. Exports to Asia in 1959-60 were 80,000 tons—about double those in 1955-56. Shipments were down to 28,000 tons in 1956-67, but since then they have shown a steady increase.

TABLE 1. U.S. Exports of Certain Mixed Feeds and Ingredients by Classification; Average 1950-54, Annual 1956-1959
(In tons)

Commodity	Average 1950-54	1956-57	1957-58	1958-59	1959-60
Dairy feeds	4,000	12,045	6,937	6,041	4,509
Poultry feeds	29,000	97,498	109,253	113,169	115,558
Corn feeds	15,000	12,950	15,559	14,718	66,071
Wheat feeds	4,000	11,479	67,185	53,072	59,015
Fodders and other feeds*	47,000	233,045	98,048	121,685	173,401
Total	99,000	367,017	296,982	308,685	418,554

*Including alfalfa meal, beet pulp, cull beans and peas, meadow grasses, malt sprouts, oat clippings, peanut hull bran, dried and shredded citrus peel, grain chaff and hulls, fruit pulp, and a number of other concentrates.

TABLE 2. Feedstuffs Exports by Areas, 1955-56 through 1959-60
(In tons)

Area	1955-56	1956-57	1957-58	1958-59	1959-60
Western Hemisphere	197,120	160,798	170,202	183,840	166,282
Europe	223,806	177,303	59,019	53,978	170,890
Asia	40,067	27,856	66,583	69,907	79,601
Africa	503	577	597	662	989
Oceania	369	483	581	298	792
Total	461,865	367,017	296,982	308,685	418,554

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This is my dog. His name is Muggs. He is nine years old and weighs 65 pounds. He is not a ribbon winner or a show dog but he is a wonderful pet and watch dog.

Muggs was nine weeks old (no pedigree) when I got him from a neighbor. I started him right out on RYDE'S FLAKED DOG FOOD mixed into a gruel with a little milk and he has been on RYDE'S FLAKED DOG FOOD ever since. I now feed it dry—just as it comes from the bag.

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L. C. Risberg

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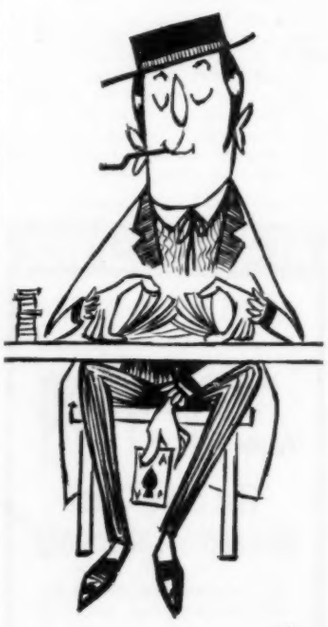

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USDA Expects Milk Production, Prices, Cash Receipts to Be Higher in 1961

WASHINGTON — A possible new record in milk output, higher prices and higher cash receipts for dairy farmers are expected in 1961, according to a dairy situation report released by the U.S. Department of Agriculture.

The report says that milk production in 1961 is expected to be higher than the 122.9 billion pounds of a year earlier and could break the record 124.9 billion pounds of 1956. Favorable milk-feed price relationships and the steady uptrend in output per cow plus the recent increase in price supports for manufacturing milk and butterfat are expected to encourage farmers toward higher production, USDA says.

"Prices received by farmers for all milk at wholesale will be higher in 1961 than 1960, but not by the full extent of the increase in price supports," comments the USDA publication. It was noted that manufacturing milk prices were maintained above support levels last year by strong demand for use in making Cheddar cheese, but it was stated that that commodity is now at a record cold storage level.

"With milk at a higher price, cash receipts to dairy farmers in 1961 will be greater than the $4.7 billion of a year ago," said USDA. "The cost of a number of production items is expected to increase, but these will only partially offset the increase in income.

"Prices to customers for milk and dairy products this year are expected to average 1 to 2% higher than in 1960." The report said that butter prices will be higher even though CCC purchase price for this product has not increased in the most recent price support announcement. Prices to consumers for cheese may not equal the level reached this past winter when wholesale prices were nearly 6¢ lb. above the support purchase price, it was stated. For 1961 as a whole, however, cheese prices to consumers may average somewhat higher than in the previous year. Fluid milk prices are also expected to be higher.

Grain Bill Effect

The report continued, "The precise effect that the special feed grain program will have on dairy ration costs cannot currently be measured, but whatever that change is, it is not likely to exert too much of an influence on milk-feed price relationships until the last quarter of the year. Therefore, higher milk prices are expected to lead to more favorable milk-feed price ratios for the next six months, at least.

"Early indications point to a somewhat smaller supply of hay for the crop year beginning May 1. Farmers plan to harvest 68.7 million acres of hay this year, 1% less than in 1960, and the yield is not likely to equal last year's near record."

USDA noted that the production of milk per cow is moving upward at an accelerating rate. Yearly production is now 7,000 lb. per cow compared with 4,033 in 1934 and 5,000 in 1947 and 6,000 in 1956. The department said that potential for the future is indicated by herds under above average management, pointing out that cows in the Dairy Herd Improvement Assn. in 1959 produced 10,300 lb., more than 50% above the average for that year. It was further noted that in 1949 cows under that program produced 8,900 lb.

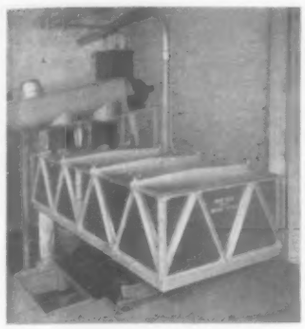
Among the factors which USDA noted as having played a part in increasing the milk production per cow was the increasing amount of concentrate fed per cow. In 1960 a record 32.2 lb. of concentrates were fed per 100 lb. of milk on farms where milk or cream was sold compared with 30.6, the 1949-58 average.

Eshelman Announces Research Change

LANCASTER, PA. — August E. (Gus) Branding, manager of John W. Eshelman & Sons Red Rose Research Center at Lancaster, is resigning effective May 31, to resume his studies at Pennsylvania State University. He has enrolled in the graduate school to do advanced work in dairy science.

Mr. Branding was graduated from Pennsylvania State University in 1949 with a B.S. degree in dairy science. In March, 1951, he was employed by Eshelman's as a sales and service man in the south Jersey territory. In 1952, he was transferred to Lancaster where he helped to initiate the establishment of the Red Rose Research Center, a division of the Red Rose Experimental Farms.

Until further arrangements are completed, the Red Rose Research Center will be under the direction of Victor G. Conger, D.V.M., who joined Eshelman's technical staff after graduating from Ohio State University Veterinary College in June, 1960. He will work closely with Dr. E. I. Robertson, director of nutrition, in developing livestock and poultry feeds and feeding programs.



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BAUGHMAN SF-8 BULK FEED BODY: An economical model available in choice of 16 lengths, 10 to 40-foot. Built in multi-compartments to allow mixed loads and deliveries to different customers on the same trip. Full hydraulic drive . . . no expensive gears to wear out. Hydraulic system has protection of large, capacity relief valve. Hydraulic motors are 2½" size; 3" pump with direct drive from P.T.O. Heavy-duty 9" body auger. Self-cleaning prevents contamination. Has many other features that mean better performance and lower maintenance costs. Write for Bulletin A-427.

Bill Myrick, owner of Myrick Equipment Company, Mt. Pulaski, Illinois, prepares an SF-8 Bulk Feed Body for delivery.

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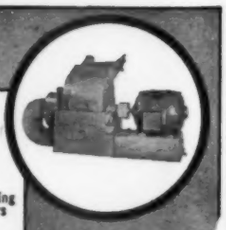

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An informed outlook is the best insurance against the "look out!" warnings that usually come too late. That is one of the reasons for the popularity of Feedstuffs' Outlook Issue. That's the reason it has been necessary to reprint the Outlook features in the Dec. 31, 1960, issue.

This 20-page reprint includes 11 articles on business prospects and important trends in various areas of the feed industry, with emphasis on marketing at a profit. Included in the report are exclusive articles by Robert D. Emmons of Wirthmore Feeds, Inc.; Earl P. Mitchell of Alabama Flour Mills; E. C. Fuller of Nutrena Mills, Inc.; G. A. Ensminger of Albers Milling Co., and R. H. Bauman and J. O. Dunbar of the agricultural economics staff at Purdue University.

You'll also find that valuable information from Feedstuffs' survey of feed manufacturers is presented in detail in the report.

If you'd like to sharpen your outlook and eliminate the "look outs," just fill in and mail the coupon.

Please send me ..... copy(ies) of "Feedstuffs Outlook Report on Important Prospects and Trends for 1961" at $1 each for which payment is enclosed.

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Kansas Grain, Feed Meeting Attracts Registration of 700

By THOMAS E. LETCH
Feedstuffs Staff

WICHITA, KANSAS — More than 700 registered for the 64th annual convention of the fast-growing Kansas Grain & Feed Dealers Assn. held in the Broadview Hotel here April 27-29.

"Membership has reached a new high," said O. E. Case, executive secretary, "and it seems to be continuing to grow, even with a new higher dues structure."

In a complete membership report, H. J. Gudenkauf, Frankfort (Kansas) Grain Co., membership committee chairman, noted that there were only 230 members in 1945; 453 in 1952; 598 in 1957; 720 in 1959, and 758 on Dec. 31, 1960.

To allow for the expanded membership, the association voted to increase the board of directors from 12 to 15 members. The change in the by-laws also provides for the election of a second vice president. Elected to this post was Robert F. Gantz, D. R. Bondurant Grain Co., Ness City.

Ed D. Romain, The Pillsbury Co., Wichita, was reelected president, and Charles R. Coffey, Coffey Grain Co., Brewster, was reelected first vice president.

New directors are Earl Bryan, Parker Grain Co., Hugoton; Paul Stutterheim, Reich Grain Co., Inc., Norton, and Ailiff Neal, Windom Grain Co., Inc., Windom. Reelected as directors were Royal R. Cox, Cox Grain Co., Iola; Ellis K. Cave, Dodge City Terminal Elevator Co., Dodge City; Victor S. Davis, Western Terminal Elevator Co., Hutchinson; David E. McKee, C-G-F Grain Co., Inc., Topeka.

Other directors serving unexpired terms are Steve E. Aduddell, H.A.M. Grain Co., Coffeyville; S. Dean Evans, Sr., Evans Grain Co., Salina; Mr. Gudenkauf; and J. H. Voss, Voss Grain & Seed Co., Inc., Downs.

Program Speakers

Among the speakers on the program were Alvin E. Oliver, executive vice president, Grain & Feed Dealers National Assn., Washington; Dr. James A. McCain, president of Kansas State University; Donald E. Smith, director, Kansas City Commodity office; George L. Vinz, supervising inspector, Kansas City district, Food & Drug Administration; Arlan Woltemath, National Plant Food Institute, Kansas City; Dr. Floyd Smith, Kansas State University; E. Keith Barrett, Mill Mutuals; Leonard Williams, assistant commissioner of labor, Kansas Department of Labor; Charles W. Pence, president of the Kansas Wheat Improvement Assn., Manhattan; Cecil L. Utterback, regional director, Bureau of Labor-Management Reports, U.S. Department of Labor; Wendell Becraft, state administrative officer, Kansas ASC Committee; George Douglass, chief examiner, Kansas Warehouse Division, and Reese Wade, Independence, Mo.

"Government agricultural programs stand today at the crossroads and a new direction can be expected," Mr. Oliver told the group. "You are holding your convention at a critical time in agricultural history."

The GFDNA official spoke of recent changes in farm policy and emphasized that farm policy direction can be changed by legislation or, to a great degree, by regulations and internal policy within the U.S. Department of Agriculture.

In explaining the omnibus farm bill proposed by the administration, Mr. Oliver stated that the bill "is not a wheat program, a feed grain program or livestock legislation; but it is instead the machinery and blueprint under which future farm programs can be developed, using every tool and incentive imaginable."

By pointing out both sides of the controversial farm bill, the association executive indicated the wide variance of opinion as to how much power the proposed legislation would give to the secretary of agriculture. Mr. Oliver said the advisory committees, proposed by the bill, can be powerful, responsible men representing wide philosophical, commodity and geographical views; or they can be parrots mimicking what the staff in USDA wants them to say.

Prepare to Meet Changes

Mr. Oliver stressed the need for the industry to be prepared to meet the changes which government influence will bring in the fields of storage, Food & Drug Administration regulations and transportation. "These are areas which will test the industry in the months ahead," he said, "and we must not be caught off-guard or unprepared."

To meet the challenges in the areas of storage, FDA, and transportation, Mr. Oliver itemized some of the accomplishments of the industry during the past year; and he invited grain and feed dealers to work together toward future goals.

"You might say we have proceeded conservatively," he said. "We're taking one step forward at a time, but the steps are quickening."

The success of the recent GFDNA membership expansion was singled out as an event which will make possible attainment of some of the future goals of the association. The employment of a director of research has been approved by the executive committee and holds top priority when funds become available.

Mr. Oliver thanked the many volunteer workers in Kansas and other states who worked hard to make "ME" such a tremendous success. More than 400 new members will be added to the GFDNA as a result of "ME" Day.

"If the grain and feed industry

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continues such enthusiasm, and works in unity as it has done in recent times, it will be prepared to cope with the challenges and changes which are expected," Mr. Oliver said.

Storage Situation

In discussing the storage situation, Mr. Smith said that it looks like the Kansas City Commodity Office will be able to handle the small grain takeover in this area without too much of a problem, barring a substantial improvement in crop prospects.

The commodity official reviewed the movement of grain that has taken place, noting that his office handled more than 300 million bushels of grain last year. Of that amount, 190 million bushels was moved out of the area, either for storage elsewhere or for export; and 115 million bushels was moved from country point to terminals or sub-terminals.

"The first four months this year we have already handled 180 million bushels. We have moved 10 million bushels to the West Coast under the special export rate. We expect to move about 60 to 65 million bushels of wheat and milo to the Dallas Commodity office area where storage space is more ample. And we will continue to move grain from country points to terminals and sub-terminals in accordance with the requests made in the survey that was conducted the end of 1960," Mr. Smith said.

"It is now estimated that as much as 50 million bushels of new storage space will be approved in our area under the Uniform Grain Storage Agreement the first six months of this year," Mr. Smith said, noting that this amount of new space helps to relieve the tight storage situation.

A definite problem is still expected at the time of corn loan takeover, the commodity official continued. After Aug. 1, this situation is expected to be particularly acute in eastern Nebraska, eastern Kansas and in northwestern Missouri. "It looks like we will have to move 50 million bushels," he said.

If considerable corn is resealed, or if more commercial storage is built, this problem will be lessened, Mr. Smith said.

FDA Grain Program

Discussing the Food & Drug Administration's clean grain program, Mr. Vinz said: "Some elevator operators apparently prefer to live rather dangerously." He pointed out that one out of five in the Kansas City district are violating FDA regulations. In a follow-up of inspections made earlier, Mr. Vinz said that inspectors found filthy conditions still present in a large number of cases. Rodent problems had worsened and insect infestation was also present. The FDA inspector urged those who store grain to check these points:

1. Keep rats and mice out of the grain. One rat in a year's time will shed 1 million hairs, void a gallon of urine and harbor 10 million lice, he said.
2. Keep insects out.
3. Keep birds out.
4. Do not add filthy grain to clean grain. No matter how it is diluted, filthy grain is filthy grain.
5. Check box cars for cleanliness.
6. Examine incoming grain for cleanliness and pink wheat.

Mr. Vinz said that his group is continuing its educational efforts and will be happy to furnish speakers on the clean grain topic whenever and wherever possible. "We are trying to impress upon each individual and individual firm their responsibility to know the law and comply with it.

"The task ahead is a large one, but it can be done. Remember that grain is food; let's keep it clean," Mr. Vinz concluded.

Encourage Education

President McCain called upon the grain and feed people to help identify students who are qualified to go to college, and encourage them to do so. He pointed out that agricultural research is aimed at solving problems, and that it would be folly to discontinue research programs because they have been effective in increasing production.

"If our problem is a surplus, then we should try to solve that problem, and more of our research is being done in the areas of utilization and marketing," Dr. McCain said.

Kansas Fertilizer Potential

Dr. Floyd Smith called attention to the tremendous potential for fertilizer business there is in Kansas. "Last year usage hit 330,000 tons,

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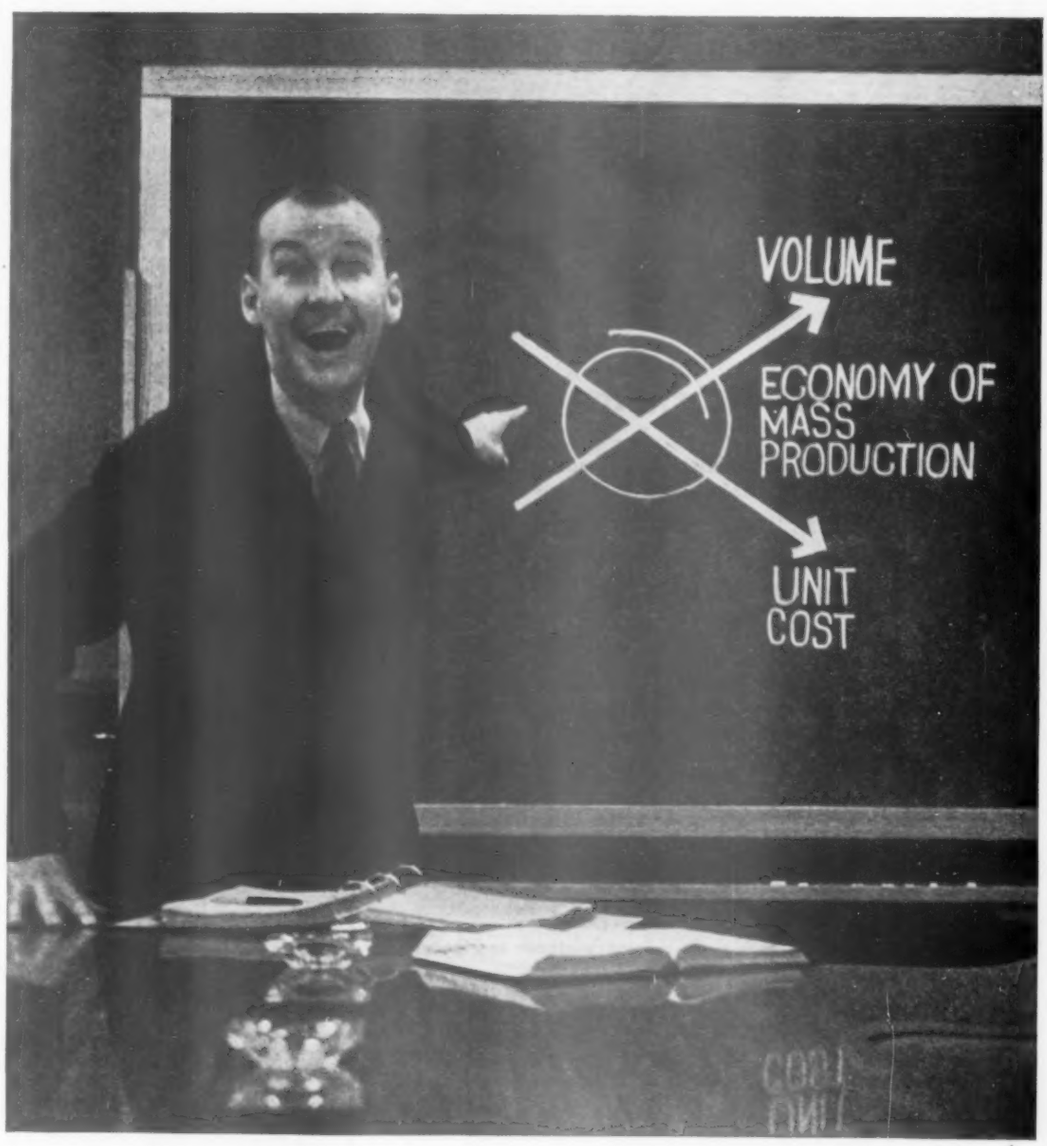

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PRODUCTION PER COW MOO-VING UPWARD

WASHINGTON — Milk production per cow in the U.S. is moving upward at an accelerating rate, according to figures in the dairy situation report just issued by the U.S. Department of Agriculture.

The report notes that average production reached 7,000 lb. in 1960. It took just four years for the rate to climb 1,000 lb. from the 6,000 lb. annual level achieved in 1956. That compared with 13 years for production to rise from 4,000 in 1934 to 5,000 lb. in 1947, and nine years for the 1947 production of 5,000 lb. to increase to 6,000 lb. in 1956.

USDA says that the average annual increase in output per cow was about 1½% from 1940 to 1950 and about 3% from 1950 to 1960.

USDA commented that future potential was indicated by the herds in Dairy Herd Improvement Assn. where 1959 average production was 10,300 lb., more than 50% above the U.S. average for that year.

The reasons for the increase, according to the report, are: Feeding greater quantities of concentrate feeds, increased use of proven sires, more rigorous culling, development of animals that have the inherent capacity to produce continuously over wider time spans, better management on the part of dairy farmers and improvements in disease control.

and it is possible that it will reach 400,000 tons this year," he stated.

The K-State agronomist noted that 46% of the fertilizer used in the state is used on wheat. He pointed out that various changes can affect fertilizer usage. Among factors that exert an influence, he mentioned: Changes in cropping practices; drouth; general farm economics; irrigation, and economics in the fertilizer industry.

Dr. Smith noted the changes that are occurring in the types of fertilizer being used in the state, pointing out that the ammonium phosphate types are now the most popular.

Mr. Woltemath called attention to the important part a dealer plays in selling a farmer fertilizer. Basing his talk on a study done by two Iowa State University economists, the National Plant Food Institute specialist showed that farmers buy from a particular dealer because that dealer offers service of some kind. And 69% of the farmers surveyed said they would switch dealers to get better service of one kind or another.

"A dealer must sell customer satisfaction; not just fertilizer," Mr. Woltemath said.

Trout Farm, Fish Food Firm in Court Case

TWIN FALLS, IDAHO — A nonjury trial will begin here July 18 in a suit and counter-suit involving a trout farm and a fish food company.

Rangen, Inc., Buhl, Idaho, last June filed a suit against the Nelson Trout Farm, also of Buhl, for $34,724 plus costs, which it claimed was owed for purchases of trout feed.

Nelson Trout Farm filed a counter claim, then amended it and asked for damages of $371,500 for loss of sales during 1959 and 1960, plus other damages. The Nelson claim said Rangen ". . . represented that said trout fish feeds were whole and complete trout fish feeds . . . and could be used without damage as an exclusive unsupplemented diet for trout fish."

Instead, Nelson's claim contended, the fish acquired "a tumorous and cancerous condition of the liver."

Rangen has denied the counter claim.

District Judge Theron W. Ward has set aside two weeks for the trial.

Julius H. Beard Henry Clift

Appointments Told By Red Hat Feeds

DECATUR, ALA. — The appointment of Julius H. Beard as Red Hat Feeds representative in south Alabama and northwest Florida has been announced by Earl P. Mitchell, sales manager, Red Hat Feeds division, Alabama Flour Mills, Decatur.

Mr. Mitchell also announced the transfer of Henry Clift from the Gulf area to the Decatur area.

Mr. Beard, formerly associated with City Cash Feed Store, Picayune, Miss., brings with him a background of more than six years in feed and farm sales and service work, and seven years as a tractor dealer and distributor.

Mr. Clift has been representing Red Hat Feeds in southern Alabama and northwest Florida. He has had nine years of experience in feed sales and service work.

OREGON FIRM SOLD

CULVER, ORE. — The Round Butte Seed Growers, Inc., has purchased and will take over operation of the Albert Dickinson seed cleaning and fertilizer plant here, it has been announced by R. E. Clark, who will manage the facility. Mr. Clark said that the corporation, which is composed of central Oregon stockholders, has purchased the Culver plant outright.

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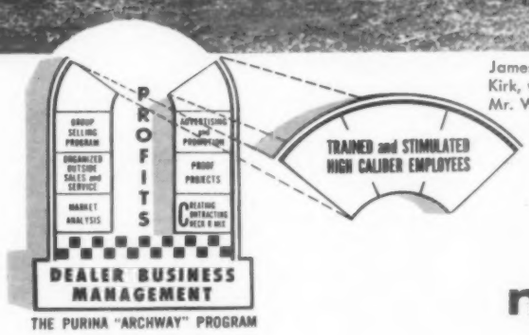
Meeting the challenge of the '60's with service

James Witt, right, got a lesson in on-the-farm service from "Purina Sales Partner" William E. Kirk, when they visited Allandale Farm, managed by G. M. Wheeler, who is holding the Angus. Mr. Witt, who has a degree in agriculture, is on the staff of Holston Feed Store, Kingsport, Tenn.



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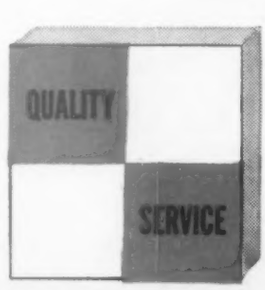

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Convention Calendar

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

June 5-6 — Central Retail Feed Assn.; Hotel Schroeder, Milwaukee, Wis.; sec., Eldon Roesler, 1712 W. St. Paul Ave., Milwaukee.

July 7-8—Maine Broiler Festival; Belfast, Maine.

Aug. 8-9—Wisconsin Nutrition School; Memorial Union, University of Wisconsin, Madison; Dr. Robert Grummer, Animal Husbandry Dept.

Aug. 20-21 — National Hay Assn.; Phoenix Hotel, Lexington, Ky.; sec., Mrs. Elgene L. Hicks, 900 E. Bridge St., Plainwell, Mich.

Sept. 14 — Small Mill Workshop; Continental Hotel, Kansas City, Mo.; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

May 14-15—Missouri Grain & Feed Assn.; Hotel Coronado, St. Louis, Mo.; sec., D. A. Meinershagen, Higginsville, Mo.

May 14-16 — National Cottonseed Products Assn.; Eden Roc Hotel, Miami Beach, Fla.; sec., John F. Moloney, 43 N. Cleveland St., Memphis 4.

May 22—Des Moines Feed Club Field Day; Des Moines Golf and Country Club, Des Moines, Iowa; (hotel reservations) Reed Merrick, Sargent Calcium Co., 2525 Euclid Ave.; (tickets for banquet and show) Don Frantz, Nixon and Co., S.E. 21st and Maury.

May 22-23—Poultry Industry Sales Clinic; Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

May 26—Oregon Beef Cattle Day; Oregon State University, Corvallis; chm., Dr. A. T. Ralston, Animal Husbandry Dept.

May 31—Iowa Cattle Feeders Day; Iowa State University, Ames; Dr. Wise Burroughs, Animal Husbandry Dept.

June 1-2 — Arizona Ranch School and Cattle Feeders Day; University of Arizona, Tucson; Dr. Bruce R. Taylor, head, Animal Science Dept.

June 4-6—Indiana Grain & Feed Dealers Assn.; French Lick-Sheraton Hotel, French Lick, Ind.; sec., Fred K. Sale, 600 Board of Trade Building, Indianapolis 4.

June 5-7—Association of Southern Feed, Fertilizer and Pesticide Control Officials; Lafayette Hotel, Lexington, Ky.; sec., M. B. Rowe, 203 N. Governor St., Room 304, Richmond 19, Va.

June 8-11—Canadian Feed Manufacturers Assn.; National Convention; Manoir Richelieu, Murray Bay, Quebec; national secretary, W. N. Hendrick, 2901 Bloor St. W., Toronto 18, Ont.; for registrations, T. G. Sevigny, Room 100, 355 McGill St., Montreal 1, Quebec.

June 9-10—Arkansas Poultry Festival: Little Rock; mgr., Arkansas Poultry Federation, John Haid, P.O. Box 1446, Little Rock.

June 11-14—American Dairy Science Assn.; University of Wisconsin, Madison; chm., Dr. L. H. Schultz, dairy husbandman, University of Wisconsin.

June 12-13—Eastern Federation of Feed Merchants; Concord Hotel, Lake Kiamesha, N.Y.; sec., Austin W. Carpenter, Box 66, Sherburne, N.Y.

June 13-16—Northeastern Poultry Producers Council Egg Quality School; Pennsylvania State University, University Park, Pa.; sec., Richard I. Ammon, 10 Rutgers Place, Trenton 8, N.J.

June 15-16—Pacific Northwest Grain Dealers Assn.; Davenport Hotel, Spokane, Wash.; sec., Merrill Sather, 418 Peyton Bldg., Spokane 1.

June 15-17 — Delmarva Chicken Festival; Seaford, Del.; Delmarva Poultry Industry, Inc., R.F.D. No. 2, Box 47, Georgetown, Del.

June 19—Connecticut Poultry Day Program and Exhibit; University of Connecticut; William A. Aho, extension poultryman.

June 19-21—American Association of Feed Microscopists Annual Meeting; Continental Denver Motor Lodge, Valley Highway and Speer Blvd., Denver, Colo.; sec., G. M. Barnhart, Missouri State Department of Agriculture, Jefferson City, Mo.

June 19-24—Feed Microscopy Short Course, sponsored by American Association of Feed Microscopists; Continental Denver Motor Lodge, Valley Highway and Speer Blvd., Denver, Colo.; sec., G. M. Barnhart, Missouri State Department of Agriculture, Jefferson City, Mo.

June 20-21—Alabama Poultry Industry Assn.; Whitley Hotel, Montgomery, Ala.; sec., W. L. Walsh, Box 567, Montgomery.

June 28 and 30—"Golden Goodness of Texas High Quality Eggs" Month; June 28, Kickoff Luncheon, Texas State Hotel, Houston; June 30, Kickoff Luncheon, Baker Hotel, Dallas; T. A. Hensarling, sec., Texas Egg Council, P.O. Box 251, Stephenville, Texas.

June 29-30—Pennsylvania Poultry Federation; Pennsylvania State University, University Park; (room reservations) Russell Murphy; (program information) Glen O. Bressler, Room 105, Weaver Hall.

July 14-18—Georgia Feed Assn.; Grand Bahama Club, Grand Bahama Island; sec., W. E. Merritt, Suite 1-A, 361 E. Paces Ferry Rd. N.E., Atlanta 5.

July 18-20—American Poultry Congress & Exposition; Municipal Auditorium, Minneapolis; Don M. Turnbull, sec., American Poultry & Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

July 24-28 — Southeastern Egg Quality and Grading School; Auburn University, Auburn, Ala.; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

July 27—Technical Alfalfa Conference; co-sponsored by the American Dehydrators Assn. and USDA Western Utilization Research and Development Division; Western Regional Research Laboratory, USDA, Albany, Cal.; chm., Dr. G. O. Kohler, Chief, Division Field Crops Laboratory, Western Regional Research Laboratory, 800 Buchanan St., Albany 10.

Aug. 2-4—West Virginia Poultry Assn. Convention and Festival; Moorefield, W.Va., sec., Wilson Smith, Petersburg.

Aug. 3-4—National Soybean Processors Assn.; Edgewater Beach Hotel, Chicago, Ill.; sec., Wm. K. Self, 3818 Board of Trade Bldg., Chicago 4, Ill.

Aug. 7-9 — Southeastern Management Roundtable; Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Aug. 7-12—Texas Feed Microscopy Short Course; Memorial Student Center, Texas A&M College, College Station; E. E. Brown, Station Microscopist.

Aug. 9—Science at Work, Open House and Reports by Staff Scientists; Connecticut Experiment Station, Lockwood Farm, Mt. Carmel, Conn.

Aug. 13-18—School of Executive Development in Business Management, Unit II; Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Aug. 21-22—Kentucky Feed & Grain Association; Brown-Suburban Hotel, Louisville, Ky.; sec., Jack Weber, Box 425, Lexington.

Aug. 24-26—North Carolina Feed Manufacturers Assn.; Cavalier Hotel, Virginia Beach, Va.; sec., McNair Evans, Box 428, Laurinburg, N.C.

Aug. 24-27—Georgia Poultry Institute; Rock Eagle 4-H Club Center, Eatonton, Ga.; Dewey McNiece, Extension Poultry Dept., University of Georgia, Athens.

Aug. 28-29 — American Soybean Assn.; Claypool Hotel, Indianapolis, Ind.; Geo. M. Strayer, Hudson, Iowa.

Sept. 11-12 — Minnesota Nutrition Conference; Institute of Agriculture, University of Minnesota, St. Paul; chm., Dr. L. E. Hanson, Animal Husbandry Dept.

Sept. 11-13—Feed Production School; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 13-14—Maryland Feed Service Conference; Chemistry Auditorium, University of Maryland, College Park; Wade H. Rice, Poultry Dept.

CALENDAR FOR 1961-62

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Sept. 18-19—Pet Food Institute; Drake Hotel, Chicago, Ill.; sec., Clyde Kassens, 333 N. Michigan Ave., Chicago 1.

Sept. 19 - 21 — Marketing Seminar for Feed Manufacturers; Morrison Hotel, Chicago; Sales Executives Council, American Feed Manufacturers Assn.; W. E. Glennon, president, 53 W. Jackson Blvd., Chicago.

Sept. 19-27—International Conference on Fish in Nutrition; Washington, D.C.; sec., Dr. Erik Heen, Chief, Fisheries Technology Branch, Food and Agriculture Organization, Washington 25.

Sept. 22-23—Iowa Feed Conference; Memorial Union, Iowa State University, Ames; Dr. H. L. Self, Animal Husbandry Dept.

Sept. 24-26—Southeastern Feed Production School; Continuing Education Center, University of Georgia, Athens.; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 Ponce de Leon Ave., Decatur, Ga.

Sept. 27-29—National Feed Ingredients Assn.; Lake Lawn Lodge, Delavan, Wis.; sec., I. Levin, 517½ E. Locust St., Des Moines 9, Iowa.

Sept. 27-29—Pennsylvania Millers & Feed Dealers Assn.; Hotel Hershey, Hershey, Pa., sec., D. W. Parke, P.O. Box 329, Ephrata, Pa.

Sept. 28-29 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; Dr. E. L. Stephenson, animal industry and veterinary science department.

Oct. 2-3—Washington Poultrymen's Institute; Centralia Junior College; Dr. Leo Jensen, Poultry Science Dept., Washington State University, Pullman.

Oct. 3-5—Northeastern Poultry Producers Council Exposition and Convention; Farm Show Bldg., Harrisburg, Pa.; sec., Richard I. Ammon, 10 Rutgers Place, Trenton 8, N.J.

Oct. 4-6—Texas Nutrition Conference; Texas A&M College, College Station; chm., Dr. J. R. Couch, Poultry Science Dept.

Oct. 10-11—Iowa Poultry Convention; Veteran Memorial Auditorium, Des Moines; sec., Iowa Poultry Assn., LeRoy Kruskop, 535 E. Lincoln Way, Ames, Iowa.

Oct. 15-20—School of Executive Development in Business Management, Unit III; Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 Ponce de Leon Ave., Decatur, Ga.

Oct. 16-17—California Animal Industry Conference; Fresno Memorial Auditorium, Fresno, Cal.; co-sponsored by California Hay, Grain & Feed Dealers Assn. and University of California; sec., California Hay, Grain & Feed Dealers Assn., Leo L. Johnson, Blue Anchor Bldg., 1400 10th St., Sacramento, Cal.

Oct. 23-25 — Centennial Nutrition Conference; Hotel Muehlebach, Kansas City 5, Mo.; sponsored by Midwest Feed Manufacturers Assn. and Land-Grant Colleges in Midwest's area; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Oct. 24-25—Virginia State Poultry Federation; Hotel John Marshall, Richmond, Va.; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19.

Oct. 26-28—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Head, Feed and Fertilizer Control Dept., University of Kentucky, Lexington.

Nov. 1—Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Dr. Philip Derse, Wisconsin Alumni Research Foundation, 506 Walnut St., Madison 5, Wis.

Nov. 1-2—Kansas Poultry Assn.; Broadview Hotel, Wichita; sec., Harry J. Reed, Box 663, Manhattan.

Nov. 1-3—Cornell Nutrition Conference; Statler Hilton Hotel, Buffalo, N.Y.; chm., Prof. Douglas E. Hogue, Animal Husbandry Dept., Wing Hall, Cornell University, Ithaca, N.Y.

Nov. 8-9—Illinois Feed Assn.-Illinois Poultry and Hatchery Federation joint convention; Springfield Armory, Springfield; sec. I.F.A., Dean M. Clark, 141 W. Jackson Blvd., Chicago 4; sec., I.P.H.F., Aubrey Harless, Shelbyville, Ill.

Dec. 6-7—Missouri Poultry and American Poultry & Hatchery Federation Midwest Quickie Convention; Hotel Continental, Kansas City, Mo.; sec., Missouri Poultry Improvement Assn., E. M. Funk, Box 568, Columbia, Mo.

Dec. 7-8—Michigan Feed and Grain Dealers Assn.; Pantland Hotel, Grand Rapids, Mich.; sec., Nevels Pearson, Box 472, East Lansing.

1962

Jan. 29-31—Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Feb. 4-6—Wyoming Grain, Feed & Seed Dealers Assn.; Townsend Hotel, Casper, Wyo.; sec., Everett L. Berry, Box 118, Sheridan, Wyo.

Feb. 5-7—Association of Southern Agricultural Workers; Jacksonville, Fla.

Feb. 9-11—Poultry Fact Finding Conference; sponsored by Institute of American Poultry Industries; Municipal Auditorium, Kansas City, Mo.; pres., Harold M. Williams, 67 E. Madison, Chicago 2, Ill.

Feb. 14-15—Pacific Northwest Feed Mill Production School; Benjamin Franklin Hotel, Seattle; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 16 — Washington State Feed Assn. annual convention; Benjamin Franklin Hotel, Seattle; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 20-21—Virginia State Feed Convention and Nutrition Conference; Hotel Roanoke, Roanoke, Va.; sec., Virginia State Feed Assn., J. Paul Williams, 615 E. Franklin St., Richmond 19, or Prof. Paul M. Reaves, Dairy Science Dept., Virginia Polytechnic Institute, Blacksburg.

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A mixer, a liquids application system, a bulk unloader, or a complete pelleting and cooling system by Wenger will still be in profitable production years from now. Because when you purchase equipment from Wenger you are purchasing proven equipment, engineered and backed by the firm which has developed more new and important equipment than has any other supplier to the industry.

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New! Combination Reel and Paddle Design Batch Mixer

New! Model B Multi-Duty Pellet Mill

Horizontal Pellet Cooler

New Hampshire Poultry Men Told They Have Advantages, Must Think Positively

By RICHARD WARREN
University of New Hampshire

DURHAM, N.H.—Poultry men attending the recent New Hampshire Poultry Growers' spring meeting here were told that they have a lot of advantages, that competition from other areas isn't their major problem, and that they must develop more positive thinking.

Topics discussed at the meeting included credit, industry developments, staying independent and random sample testing.

"What a poultry man needs to get credit is: (1) some equity in the business, (2) the ability to repay the loan and (3) an inclination to pay." This was how a panel discussion on credit was summarized by T. B. Gadd, a veteran of 40 years in the poultry business and president of the Plymouth, N.H., bank.

Ray Delano, Wirthmore Feeds, Waltham, Mass., told the poultry men that his job is to get the banks to take over the poultry credit business.

Mr. Delano said that southern New Hampshire has a lot of advantages in the poultry business, especially in the production of market eggs. He commented that to take advantage of this, the poultry men, banks and all others connected with the poultry industry must think of the field as big business.

He emphasized the need for a better job of record keeping so that poultry men know the actual cost of production. "Too much credit has been given on the basis of the financial statement without regard to the cost of production," Mr. Delano stated. And he continued by stating that records must be separate for each flock.

"We will probably always have feed company credit, but the trend towards larger cash discounts is encouraging bank credit," he said.

Selective Credit

R. H. Thurston, manager, Farm Cooperative Credit, Nashua, N.H., said that credit will continue to be available for poultry production, but predicted that it would be on a more selective basis. Unsound credit policies, he said, have contributed to the violent ups and downs of the poultry business.

He commented, "Some operators have been able to start with no investment of their own. This indiscriminate use of credit has been bad for the poultry industry."

He pointed out the three types of credit available—operating or short term credit, intermediate credit and long-term credit—and made recommendations as to which should be used for which needs.

"Credit," he said, "is no substitute for income. It will continue to be available to the efficient poultry man, but more lenient credit can only mean more poultry industry troubles."

Edgar Winslow, recently appointed farm credit supervisor of the Concord (N.H.) National Bank, told poultry men that when they come to borrow money, they should bring a profit and loss statement and a net worth statement.

On the subject of attitude, he said that many poultry men develop a defeatist attitude toward business while others are making a real success of the business.

"Poultry men are too ready to accept grain company credit without looking into the cost of that credit," said Mr. Winslow, "and the possibility of bank credit instead. Feed company credit makes them a captive market for the companies."

Raymond Freeman, state director, Farmers' Home Administration, told the poultry men that his government agency's job is to help young, qualified men become established and to help the older poultry men who get into financial troubles. He emphasized that the agency's interest rates are more favorable than those of private institutions. He pointed out that the limit on the size of loans has been increasing and that now it is possible to get a $30,000 operating loan.

Silas Weeks, farm management specialist, University of New Hampshire, said, "The future capital needs for poultrymen will be large, but there will be fewer borrowers. One hundred and forty farms of 20,000 layers each could supply the needed table eggs for New Hampshire. This would require an investment of nearly $200,000 per farm."

He said that integration offers some answers to the need for larger amounts of capital. He commented that it is easier for an integrated organization to get the operating capital. "This reduces the risk to the farmer and leaves him only the need of financing the real estate."

"All Have Problems"

Discussing poultry industry developments in other areas was W. R. Jenkins, extension poultryman, U.S. Department of Agriculture, Washington, D.C. He told the New England poultry growers that many times they hear only about the bright side of a new poultry development in another area. But, he said, all areas have their problems, some being manmade and some due to climate.

He cited the example of the state of Washington where it is estimated that eight chain stores handle 80% of the poultry products, meaning that there are only eight buyers for the bulk of the poultry products. He said that California poultry men have had problems with flies, health officers, zoning and roads which come with urbanization.

"No area has all the advantages," he said. "Most areas have both physical and human resources that have not been fully utilized."

Staying Independent

In his talk entitled "How You Can Stay Independent," William H. Hardy, regional editor of Farm Journal from Ithaca, N.Y., said his opinion (not his publication's) was that giant companies invading the poultry field are the biggest competition to the poultry man.

"These multi-million dollar corporations set up farms, hire non-farmers as piece workers and sell eggs below cost so they can make a profit on another product," he charged. "As long as this is the case, we cannot have a healthy poultry industry."

Mr. Hardy cited three ways this can be corrected:

(1) Ask the giants to stay away from the production of livestock.

(2) Try to get legislation to prevent these firms from tampering with poultry production such as the Packers and Stockyards Act prohibiting these firms from retailing meat.

(3) Farmers or farmer cooperatives may buy into giant chain stores to be represented in the marketing of their products.

Mr. Hardy said he feels that only the farmers can correct the present situation and that nobody is going to do it for them.

Random Sample Tests

Dr. W. C. Skoglund, chairman of the University of New Hampshire poultry science department, spoke on "What the Random Sample Tests Tell Us." He advised poultry men to try a few of several strains of chicks before making any big shift in the stock they keep.

Dr. Skoglund told the group of the results of the New Hampshire Multiple Unit Egg Test which has been going on for two years and for which results of one and one-half years are available. In the test, each farm has 16 identical pens and there are 16 entries. Variation in performance of each strain was shown. Dr. Skoglund noted that although there was some consistency in the results between farms, certain strains that did well on one did poorly on another and vice versa.

He said, "The first year there were eight white egg laying strains and eight brown egg strains. On income over feed and chick cost they were practically tied. There was a tie for top honors between a brown and white egg laying strain. The white egg birds outproduced the brown egg birds, but the browns had enough edge in the market price to offset this."

FEEDING VALUES—Dr. T. W. Perry is shown here at the recent Indiana Cattle Feeders Day discussing the comparative values of hay, haylage and silage, all made from the same field the same day (Feedstuffs, April 29, page 1). Dr. Perry is a professor of animal science at Purdue University, where the meeting was held.

Nichols Poultry to Move Farm Heaquarters

GLASTONBURY, CONN.—Headquarters of Nichols Poultry Farm, Inc., will be located at the company's research farm in Brunswick, Maine, effective July 1, according to G. E. Coleman, Jr., Nichols president, and Henry Saglio, president of Arbor Acres Farm.

Establishment of Nichols offices in Brunswick completes plans of both officials to operate the companies independently and to sell their respective products competitively. Mr. Saglio will remain chief executive officer of all Arbor Acres operations, while Mr. Coleman will retain full authority over Nichols research, production and sales.

Distribution of Nichols 108 breeder females will continue through all Arbor Acres branches, with basic breeding maintained at Nichols Southeast, Greensboro, Ga., and at Brunswick.

Twin City Nutrition Seminar Set May 16

ST. PAUL—A review of University of Minnesota animal research will be completed at the May 16 meeting of the Twin City Nutrition Seminar, according to Don Swanson, secretary of the group.

The seminar will begin at 7:30 p.m. in Peters Hall on the St. Paul campus of the University of Minnesota.

Speakers and their subjects are: Dr. Paul Waibel, turkey nutrition; Dr. David Snetsinger, chicken nutrition, and Dr. Emmet Bergman, ketosis and metabolism. Chairman for the meeting will be Ken Nold.

AT KANSAS CONVENTION—Talking over a mutual problem in the first photo, which was taken at the recent Kansas Grain & Feed Dealers Assn. convention in Wichita, are left to right, Paul Wallingford, Sam P. Wallingford, Inc., Wichita; Bob Leick, Diamond Alkali Co., Tulsa, Okla.; and Keith Taylor, Sam P. Wallingford, Inc.

The second photo shows part of the big crowd at the Kansas Grain & Feed Dealers Assn. convention that saw more than 700 persons registered. Picking up their badges and tickets at the convention are left to right, Glenn Miller, Mariett Grain & Commission Co., Larned; Dick Coupland, Tribune Grain, Inc., Tribune; George Stockwell, Amortibanc Investment Co., Wichita; and Charles Reid, Grain Management Associates, Abilene.

Kansas Grain & Feed Dealers Assn. officers are shown in the last photo. Reelected during the association's recent convention in Wichita were the president, Ed D. Romain, The Pillsbury Co., Wichita; and the first vice president, Charles R. Coffey, Coffey Grain Co., Brewster. Elected to fill the new office of second vice president was Robert F. Gantz, D. R. Bondurant Grain Co., Ness City. Orris E. Case, executive secretary, was reappointed to his office. From left to right are Mr. Romain, Mr. Coffey, Mr. Gantz and Mr. Case.

British Speakers Give S. E. Poultry School An International Flair

ATHENS, GA.—The Southeastern Poultry & Egg Assn.'s executive development school, a concentrated school in the basics of business management in a fast-changing industry, took on an international flair at the fifth annual session here.

With a full complement of 24 students, the 1961 session took a surprise turn with a lecture and discussion session headed by Dr. Bill Weeks, professor of agricultural economics at Kings College, Durham University, England, and Metford Jeanes, chairman of a cooperative poultry processing plant in southern England.

The two English poultry leaders, currently on tour of the American poultry industry, reviewed the business and production methods of the British poultry industry, and reviewed differences in the American and English industries as they viewed them.

The executive development school of 1961 opened with a half-day session on the development of a business philosophy, then drove straight into studies of business policy, financial management and personnel relations. It dealt with personal communications, and two sessions were devoted to marketing and merchandising.

The Southeastern executive development school is designed to help industry businessmen increase their personal abilities in managing poultry enterprises. It consists of three one week units all held during the same year.

Present at the 1961 executive development school were: Michael J. Arcidy, Cobb's Pedigreed Chicks, Inc., Concord, Mass.; B. M. Anthony, Mississippi Federated Co-op, Jackson, Miss.; Henry Blocker, R & R Milling Co., Inc., Carthage, Miss.; M. R. Calder, Magee Cooperative, Magee, Miss.; Jim Crouch, Southern Crate & Veneer Co., Macon, Ga.; Robert R. Croy, To-Lani Farms, Stone Mountain, Ga.; Ed Dodd, Tri-County Feed & Hatchery, Boaz, Ala.; Robert D. Eaton, C.M.T. Co., Inc., Waterville, Maine.

Hall C. Goode, Goode Bros. Poultry Co., College Park, Pa.; Wallace Greeson, Dalton Farm Supply Co., Dalton, Ga.; G. W. Hatfield, Jr., Kentucky Poultry Farms, Inc., Burnside, Ky.; Herman O. Jones, Jr., Oak Crest Hatcheries, Jacksonville, Fla.; Bill Jordan, Ft. Payne Hatchery, Ft. Payne, Ala.; W. Howard Kauffman, Howard Kauffman Turkey Farm, Waterman, Ill.; A. W. Koon, Spartan Mill Co., Spartanburg, S.C.; Mrs. Margaret R. Lovette, Holly Farms Poultry Co., Wilkesboro, N.C.

J. H. Massey, University of Georgia, extension poultryman, Athens, Ga.; William G. McGaughey, Halberts Poultry Interests, Hemphill, Texas; Mrs. Bonnie L. Rhodes, Holly Farms Poultry Co., Wilkesboro, N.C.; James E. Rushing, Fred Gaddis, Inc., Forest, Miss.; George Tenney, Mountaire Poultry Co., North Little Rock, Ark.; Don Tyson, Tyson's Feed & Hatchery, Springdale, Ark.; Dewey E. Walters, Walters Poultry Co., Inc., Columbia, Miss., and F. Andres Wise, Miss Goldy, Inc., Hazlehurst, Miss.

NEW KANSAS FIRM

TOPEKA, KANSAS — Everest Grain Co., Inc., Everest, Kansas, has been granted a charter to operate as grain and feed dealers. Thurman C. Hansen has been named resident agent. Capitalization of $125,000 was authorized.

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WANTED — SERVICE SUPERVISOR. WE have an excellent opportunity for a man, who likes to meet and work with people and is experienced either in plant maintenance or machinery installation, to head our service division. Job will require traveling, some to foreign countries. Reply by letter giving full information. Finco, Inc., Box 968, Aurora, Ill.

ASSISTANT SALES MANAGER WANTED for major feed manufacturer. Between ages 30 and 45, must be experienced in sales, advertising and promotion; capable and experienced in supervising sales personnel. Excellent opportunity. Salary open. Expense account and company car furnished. Apply: Sales Department, P.O. Box 1888, Fort Worth, Texas.

NEED AGGRESSIVE MAN, AGE 30 TO 40, good health, education preferably college background. Must have feed and agriculture experience. At least three years of former sales experience, able to travel 4 to 5 days a week. Position consists of representing nationally known manufacturing company of both stationary and mobile mills. Compensation plan above average. Complete training program. Write giving complete qualification. Address Ad No. 6877, Feedstuffs, Minneapolis 40, Minn.

SALES MANAGER

Well established company with long record of consistent growth needs a sales manager in the Mississippi, Arkansas and Tennessee area.

He must have extensive managerial experience in marketing products for the cotton grower, and must be familiar with the entomology and agronomy of the area. A knowledge of prepared feeds will be helpful. Give past employers and income. All replies will be held in confidence.

Address Ad No. 6864, Feedstuffs Minneapolis 40, Minn.

GENERAL MANAGER INTEGRATED POULTRY OPERATION

Well-established feed manufacturing company located in the Southeast needs General Manager for its contract poultry raising business. This is an important part of our business and is expanding rapidly. Substantial remumeration for an experienced, cost-conscious, development-minded executive who can take over the present operation and grow with it.

In your confidential reply give details of experience background, as well as education, personal background, and salary requirements. Write to:

Ad No. 6887, Feedstuffs Minneapolis 40, Minn.

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WANTED — USED J. B. MOBILE MILL. Give age and description. F. M. Brown's Sons, Ins., Birdsboro, Pa.

WANTED TO BUY — RICHARDSON Scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

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COMPLETE GORDON JOHNSON MACHINE for poultry dressing operation. Capacity 600 birds hour. Address Ad No. 6865, Feedstuffs, Minneapolis 40, Minn.

WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P.O. Box 574, Jefferson City, Mo.

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LIKE NEW EUREKA NO. 10 STANDARD receiving scalper complete with air aspirator, hoppermagnets including drives and explosion proof labeled motors. Will sacrifice to move. Address Ad No. 6886, Feedstuffs, Minneapolis 40, Minn.

FOR SALE — WHIZZER BAGGING CON-veyors, Richardson scales, Union special, Minneapolis, Fischbein sewing heads, one to seven ton square bins, welded spouting and elbows. Winborne Mill Equipment Service, Williamsburg, Iowa.

ONE LIKE NEW 133 EUREKA ARMORED oat clipper complete with 25 H.P. explosion proof labeled motor, starter and belt drives. Run less than 50 hours. Will sacrifice to move. Address Ad No. 6885, Feedstuffs, Minneapolis 40, Minn.

HAMMERMILL — PRATERMATIC MODEL 6AC with 75 H.P. open motor, 75 H.P. 230 volt starter, crusher and permanent magnet. Contact Jacobson Machine Works, Inc., 1090 Tenth Ave. S.E., Minneapolis 14, Minn.

FOR SALE—ENCLOSED MOTORS; RICH-ardson scale; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

FOR SALE—LATE MODEL 28 FT. 8 IN. inside length New Leader air unloading bulk feed body with slightly used Wisconsin engine mounted on a 28 ft. 2 in. Chamberlain trailer, tandem axle. Good condition, including eight 1000x20 tires and tubes. Contact Dixie Grain Co., Box 331, Shelbyville, Tenn., or phone MU 4-6763.

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CHANGES

(Continued from page 10)

that the ingredient statement will disappear from the feed label.

Emphasis on Performance

"For the manufacturer this means that companies not technically oriented will find it difficult to maintain their position. The emphasis more and more will be on performance of feeds. If feeds are to be sold on performance, will the need for regulatory work be eliminated? Not so. This activity will be of even greater importance because quality evaluation will be even more complex. More attention will need to be given to evaluation of energy, digestibility, various additives and detection of undesirable residues. Feed laws may need complete revision. In this changing picture, the feed control official is deeply aware of responsibilities and is eager to work with you to meet the challenge of the times."

Mr. Epps at the outset reminded his audience of the "steady parade" of practical applications of scientific knowledge to nutrition and health, including use of many additives.

"With all of these developments," Mr. Epps said, "one may wonder if the end of the road has been reached and if conditions will be more stable in the future. This is indeed not true. What has gone before has been a beginning, a laying of the foundation. The end of this beginning has been reached. Upon this basis, increased insight into importance of nutritional factors, availability of new chemicals and new processing techniques foretell a complete revolution in the feed industry."

RESEARCH NEEDS

(Continued from page 10)

die temperatures and pressures on pellet durability, on nutrient characteristics and on vitamin stability.

8. Continued research into measuring particle reduction and modulus of fineness; also their effects on mixing, flow and feed processing—the idea being that a standard method of measurement of grind would be an important tool.

9. Continued research into the effect of gelatinization of starches on feed conversion and pellet durability.

10. Continued research into a standard method of measuring pellet durability.

11. Research into more economical means of producing crumbles.

12. Means of improving processes for formula feeds containing urea.

13. Research into a means of improving processing to obtain maximum production of finished product containing added fats.

The research survey was one of the first steps in the new research program sponsored by Feed Production School, Inc. As previously stated, the main purposes of Feed Production School, Inc., are (1) to sponsor and conduct the annual Feed Production School and (2) to institute research studies at experiment stations and private and federal agencies, and to solicit and establish funds for research projects for factual data to be used in the Feed Production School and be made available to the feed and allied industry.

Long Range Plan

Mr. Sloan explained the Production School board of directors has launched a long range plan for production research. Basically this is a four-step plan designed to provide the basis of a true technology of feed production. The plan includes: (1)

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Farm Commodity-Feed Price Ratios

	U.S.	New Eng.	Mid-Atl.	East North Cent.	West North Cent.	South Atl.	East South Cent.	West South Cent.	Mount.	Pac.
CHICKEN-FEED— Farm Chickens:										
April, 1961	3.8	3.8	4.5	3.9	3.1	3.8	3.9	3.5	3.3	2.4
March, 1961	3.9	3.9	4.6	4.0	3.4	3.8	3.8	3.4	3.3	2.8
April, 1960	3.9	4.7	4.6	4.1	2.8	3.9	3.7	3.2	3.3	2.7
Average (1950-59)	5.0									
Average (April, 1950-59)	5.5									
Broilers:										
April, 1961	3.2	3.4	4.1	3.5	3.5	3.2	3.1	3.2	3.8	3.4
March, 1961	3.6	3.7	4.4	3.7	3.9	3.5	3.4	3.5	3.9	3.7
April, 1960	3.8	4.0	4.7	4.2	4.0	3.7	3.5	3.7	3.9	4.1
TURKEY-FEED—										
April, 1961	6.6	7.7	8.3	6.8	7.4	6.3	6.9	6.5	6.5	5.8
March, 1961	7.0	7.8	8.3	7.4	8.1	6.8	6.9	6.7	6.8	6.0
April, 1960	8.1	7.6	9.0	8.3	9.5	7.2	7.6	6.8	8.2	7.5
Average (1950-59)	8.1									
Average (April, 1950-59)	8.0									
EGG-FEED—										
April, 1961	10.0	12.0	10.4	9.7	9.8	10.6	11.3	10.2	9.9	8.4
March, 1961	10.9	13.1	11.4	10.8	10.8	11.5	11.9	10.9	10.3	9.8
April, 1960	10.7	14.3	12.1	10.5	10.3	10.9	11.1	9.5	9.9	9.2
Average (1950-59)	10.7									
Average (April, 1950-59)	9.7									

	U.S.	North Atl.	East North Cent.	West North Cent.	South Atl.	South Cent.	West
MILK-FEED—							
April, 1961	1.37	1.21	1.38	1.50	1.61	1.46	1.35
March, 1961	1.42	1.30	1.39	1.52	1.67	1.54	1.42
April, 1960	1.34	1.24	1.32	1.44	1.61	1.43	1.30
Average (1950-59)	1.31						
Average (April, 1950-59)	1.21						
BUTTERFAT-FEED—							
April, 1961	25.5	...	20.8	27.3	...	17.2	19.2
March, 1961	25.2	...	20.5	27.2	...	17.0	18.9
April, 1960	24.3	...	20.4	26.5	...	16.2	18.8
Average (1950-59)	22.4						
Average (April, 1950-59)	21.9						

	U.S.	North Cent.
HOG-CORN—		
April, 1961	17.5	18.1
March, 1961	16.9	17.2
April, 1960	14.8	15.3
Average (1950-59)	13.7	14.1
Average (April, 1950-59)	13.7	14.1

NOTE: Ratios computed at mid-month by U.S. Department of Agriculture. Ratios represent number of pounds of poultry feed equal in value to 1 lb. live farm chicken, turkey or 1 doz. eggs; pounds broiler growing mash equal to 1 lb. broiler; pounds concentrate rations equal to 1 lb. milk or butterfat; bushels of corn equal to 100 lb. hog. Increases in ratios are favorable to the feeder.

KEY TO GEOGRAPHICAL DIVISIONS

Here is a guide to the states included in the geographical divisions listed in the accompanying commodity-feed price ratios:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Mid-Atlantic: New York, New Jersey, Pennsylvania.

North Atlantic: New England and Mid-Atlantic states combined.

East North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin.

West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

North Central: Combination of the two foregoing.

South Atlantic: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

East South Central: Kentucky, Tennessee, Alabama, Mississippi.

West South Central: Arkansas, Louisiana, Oklahoma, Texas.

South Central: Combination of the two above.

Pacific: Washington, Oregon, California.

Mountain: Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Montana.

West: Combination of the two above.

Development of industry - approved standard terminology of feed production (this is well under way, with tentative definitions completed). (2) Development of standard methods of measurement in feed processing. (3) Development of industry - approved processing standards. (4) A group of specific research projects to implement this plan.

This includes the suggested projects listed above. These projects are to be in part sponsored by Feed Production School, Inc., and in some cases by industry; all to be coordinated by and reported through the Production School.

In addition to the plans outlined above, objectives include cooperating with and utilizing efforts of the feed tech program at Kansas State University and other institutions; forming a permanent library of technical material; publishing a handbook of feed technology. An extensive feed milling handbook, with about 1,000 pages, is now being prepared in connection with the 1961 Production School.

To help carry out the entire program, a research coordinator will be employed by Feed Production School, Inc. The Midwest Feed Manufacturers Assn. has voted to support this by underwriting half of the coordinator's salary.

Mr. Sloan said that Production School trustees are being asked to serve on a financial committee to help raise funds. All of industry will be asked to help support the program, and there already are several who have assured support. A minimum of $100 is suggested for contributions.

In supporting the school, contributors will be asked to make their contributions over a three-year period.

In deciding on research projects, the Production School research committee will make recommendations, and the board of directors will pass on them.

The program will get underway as soon as funds become available.

At the meeting here, the trustees also heard a report on plans for the 1961 school, including the plans for the Feed Milling Handbook covering all aspects of production in mills of various sizes. This report was made by Oak Smith of Wenger Mixer Mfg. Co. in the absence of Eric Carlson of Ralston Purina Co., the 1961 school committee chairman.

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Eagle Nest Hatchery, Upper Sandusky, Ohio

Letters to the Editor

'THE MARKETING OF FRYER-ROASTERS'

Shawnee, Oklahoma

To the Editor:

We want to thank you for the very nice manner in which you handled the presentation of the article on marketing fryer-roasters (March 25). Since the feed industry is a major factor in every phase of turkey production, it is hoped that the article at least stimulated some thinking.

Your editorial note invited comments. As a result, I would like to comment on some of the points raised in the editor's note.

The first point is in regard to the "convertibility" of Large Whites. Your note challenges the stand that today's Large Whites are not satisfactory for top quality fryer-roasters. Have you personally talked with a processor who is both active in this field and without any breeding or hatching connection? . . . Or better still, have you ever purchased an 8-9 lb. eviscerated Large White fryer-roaster tom and tried it? Incidentally, the strict grading regulations in effect in Canada won't even allow such birds to be produced domestically.

There is another very serious problem in depending on prevailing market conditions as the determining factor in whether to sell as a fryer-roaster or continue to heavy weights. This type of program rules out gaining maximum effectiveness of special feeding programs.

In order to obtain a quality fryer-roaster, a high energy finisher must be used. If, however, at the last moment it is decided to go on to heavier weights, a drastic feeding change must be employed . . . often with distinctly less than optimum results. To eliminate using a finisher also eliminates any pretext of obtaining quality.

One of the major problems in fryer-roaster production is obtaining outlets willing to sufficiently promote the product. How can any processor, or merchandiser, be expected to promote a product that may not be available from one day to the next? Yet this is the exact condition when marketing policies such as you suggested are followed.

The Editor's Note also took the position that an additional 2-3¢ lb. would be needed to make production of small breeds as profitable as large breeds. This is certainly true when comparing Beltsvilles with Large Whites. It is definitely baseless when specifically designed fryer-roaster crosses are being considered . . . which may, or may not, contain some percentage of Large White bloodlines.

Such crosses start life in the first place with a head start of approximately 15¢ per poult, or nearly 2¢ per pound for an 8 lb. average bird. Their feed conversion admittedly is about 1-1¼¢ lb. higher at 14 weeks; however, this is offset considerably by grade yields of 97% Grade A.

Yours very truly,
Roy Ferguson II
River Rest Turkey Sales, Inc.

Name Barley Manager

MINNEAPOLIS—Andrew C. Vayder has been named in charge of the barley department of Bunge Corp., Minneapolis. He returns to Minneapolis after spending the past two years in Milwaukee as supervisor of grain for Pabst Brewing Co. He was also associated with Pabst Brewing Co. at Minneapolis for three years in the capacity of barley buyer.

Mr. Vayder had previously been assistant barley buyer for Kurth Malting Co. at Minneapolis for a period of five years.

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NUTRENA

(Continued from page 1)

at Peoria, will be headed by Ralph Grier, presently general sales manager.

Robert Greenlee, now administration manager of the southwestern region, will be manager of that region, headquartered at Kansas City.

Dave Ross will be manager of the southeastern division with headquarters in Memphis. He is presently administration manager at Minneapolis.

Mr. North also announced the appointment of Clarence Whitworth as director of the general office sales and merchandising staff and Dave Wentzell as director of a newly-formed staff unit that will include purchasing, traffic, formulation, quality control and pricing. Mr. Whitworth presently is plans and programs manager in the marketing department. Mr. Wentzell's present assignment is special assistant to Mr. North.

D. V. McDonald continues in charge of production. Administrative staff personnel formerly supervised by Mr. Ross will report to Lloyd M. Smith, treasurer and administrative director.

Dr. J. Wesley Nelson, director of research, recently has moved from offices in the Cargill Research Building to Nutrena staff headquarters in the Investors Building.

The company's functional managers in each region—for sales, administration, accounting, production, credit and finance—will report to regional managers and continue to maintain close functional contact with general office staff department heads, Mr. North said.

The four regions were established in a company reorganization move in March, 1959. The functional managers appointed for each region have been reporting to headquarters department heads for each function, also named at that time.

"Our present organization plan has served us well, but we know that the addition of regional managers at this time will be another important step toward increased efficiency and operational effectiveness," Mr. North said. "The market we serve grows increasingly diverse and complex, requiring more flexibility and adaptation to local opportunity. It also requires more complex decisions, with less room for error. Many problems formerly referred to Minneapolis for decision will be resolved by the regional manager, and more promptly, too.

"These changes will increase our efficiency and, more important, improve our service and communications with our customers."

DISTRIBUTION

(Continued from page 1)

day do have 5-, 10- and even 25-year marketing plans in writing. It maps out the right road to be among the 'Who's Left.' Unless you know where you are going, any road will get you there."

Mr. Butler, who is vice president of Creative Service Associates, Dayton, Ohio, also advised that "sound judgment is needed in the formulation of your plan and, it is also advisable to honestly and affirmatively answer this question, 'Is it helpful both for my company and the feed industry?' "

The variety of economic factors, problems and opportunities which are involved in feed distribution — all keyed to the needs of the feeder of livestock and poultry—were described by the following panelists: Dr. R. J. Mutti, professor of agricultural economics, University of Illinois; Paul Cory, sales manager of Moorman Manufacturing Co., Quincy, Ill., and Robert E. Miller, director of marketing, Beacon Milling Co., Cayuga, N.Y.

The conclusion of Dr. Mutti's scholarly review of major forces that will affect the future of on-farm mixing of feeds was this:

"There are strong economic forces which suggest that further mixing of feeds at points of consumption will continue. The advantages that have prevailed do not appear likely to be as great in the next five years as in the past five years. Those who make plans on the basis of what is today's model size class of farmers or dealers are looking backward, not forward.

"With the continued trends of increases in livestock output and more complete rations being fed, it seems likely that there will be increases in the amount of feed mixing both on and off the farm."

Mr. Cory, who discussed direct selling, made a distinction between companies who sell their wares on a one-call basis and those who know their success "depends upon being able to do business over and over again with the same people."

The second group, he noted, is far more important. "Their total sales volume envelops the major portion of all business done on a direct basis. This group includes some of those companies who sell cosmetics, groceries, brushes, livestock feeds and insurance, just to mention a few."

He pointed out that "some of the most astounding sales records and company sales growth of the recent decade took place in the cosmetic and silverware industries through direct sales efforts" and he asked the audience, "How many of you would have the amount of life insurance you have now, if no one had ever made a personal, direct sales approach to you?"

Mr. Cory listed the following advantages of direct selling: Point of sale control ("with a company's own employees doing the work, all the way from the manufacturing through to the consumer, a great deal more management control can be exercised"); motivational programs, rapid distribution of educational materials, personalized service, close check on results of product and on sales results.

"As livestock operations get more specialized, larger and better managed, more personalized service is expected by operators. . . . When the representative making the call on the customer and prospective customer is an employee of the company whose product he represents, he can take his company's research and service information directly to his customers."

Among the problems in operating a direct sales organization he listed these: Attracting qualified sales people, turnover, training, preparing and distributing up-to-date educational materials and allotment of territories.

Sales volume of direct selling organizations now is at least $3 billion a year, and this is definitely expected to increase, he said. "There is no question but what in our own instance, we definitely plan to remain on a direct basis."

Opposite View

A directly opposite view of how personalized service can best be provided for larger, more skilled farmers was expressed by Mr. Miller: "Our experience tells us that the feed dealer who has continued to keep ahead of the changes in agriculture in his own area is best prepared to meet the demands of the farmer and perform services that he desires."

Mr. Miller pointed out that the manufacturer can actually undermine his dealers by direct selling at the dealer's expense. "I believe every manufacturer should evaluate his relationship with dealers as soon as possible," he said. "If the dealer is performing a vital service for you and the farmer—and in almost all cases he is—then the challenge is before you to strengthen your ties with him in the form of a complete dealer sales program designed to make him an even more important and vital part of feed and farm supply distribution."

The dealer, Mr. Miller said, "will exist as long as there are necessary functions to be performed that he can perform at the lowest possible cost but still at a profit to his business."

Beacon currently has men assigned to help dealers convert their facilities to bulk handling and to assist both the dealer and his customers in the marketing of farm products, Mr. Miller said. Also, his company is stepping up dealer advertising and sales promotion aids which already include a direct mail service. "Our aim is to help the dealer personalize his approach to the farmer," Mr. Miller pointed out.

Among specific areas of dealer problem-solving Mr. Miller listed these: Need for aggressive management leadership of individual dealerships, financing (working with local banks will be most valuable), supplying a wider range of farmer needs in products and services, modernizing of distribution and warehousing with economical bulk systems, public relations and advertising.

Most important, he said, is "learning to do all these things at a profit." Failure to set reasonable margins of profit is probably one of the more important reasons for dealership failures, he said. "Unless they can, through past experience and forecasts of future business, set realistic margins to cover costs and allow some profit, they will have difficulty surviving."

(The complete discussion of "Who's Who vs. Who's Left in Feed Distribution" will be published in a subsequent issue of Feedstuffs.)

TOP OF THE HOPPER

(Continued from page 2)

marketing. Some views on developments in this area were expressed by feed men at the convention.

For example: One feed man said his firm had tried various types of coordinated or integrated egg production and marketing programs. Because of quality, uniformity and other considerations in marketing to big buyers, his view is that complete control on the part of anyone deeply involved is a necessity. "You've got to have a boss-worker relationship to make it work," he observed.

There were reports of programs to coordinate independent egg producers and promote and market eggs on a joint basis. Some claim that this will work, while others say that, in addition to uniformity and other problems, there may not be enough margin in a commodity like eggs at this point to warrant some promotion programs. One feed man said, "You can't stay in the broiler business unless you can produce for no more than 15¢ lb. Eggs are going to be the same way."

OTHERS WITH EXPERIENCE in the poultry field told of the difficulties in both broiler and egg promotion and in selling to big supermarket operators who "will buy broilers somewhere else for ½¢ lb. less after you get your program going" or who will resist any brands other than their own. "Some area-type promotion programs will work in deficit areas," one feed man said, "but it's tough in other areas."

There was, of course, comment on the over-production situation in poultry. Some persons told of individual cases of marked expansion in turkeys and at the same time expressed concern about prices. A good many were worried about the current low broiler prices but were confident that they would come through this cycle okay.

How about broilers in areas outside the traditional poultry sections? Some feel new programs will work out, while others don't think some northern sections can get their costs low enough to grow in broiler production, particularly in the face of recent low prices. "We are building better, more expensive houses," one southern operator said, "but with less heat and other costs, we still will do better." One feed man said he feels that some of the current egg production systems will be too costly, particularly if there is a "shakedown in eggs as there has been in broilers."

CONVERSATION ABOUT DEVELOPMENTS in more conventional feed operations prevailed, too, of course. Much of this dealt with production and distribution methods in the face of lower margins and more competition within local areas and regions. For one thing, the trends toward more concentrate use and smaller mills were mentioned.

Even where emphasis was on concentrates for local mills in a grain area, one firm was said to be betting on central plants producing no more than 100 tons per day, to serve nearby mills. One man told of a midwestern concentrate mixer who had developed a successful program and was said to be turning out 200 tons per day.

There also was a good deal of talk about still more decentralization, still more production and distribution efficiency. One feed man told how he had achieved real mill efficiency while still using a relatively simple and economical installation. Another, commenting on the need to reduce costs, explains why he was questioning a research program in which his firm was involved.

ALSO TALKED ABOUT was an egg program in which the feed firm involved supplied "base mixes" for producers who supplied soybean meal as well as grain and mixed the feed. While certain questions were raised and area differences would, of course, be involved, one man claimed "amazingly" low costs and favorable results for this type of thing.

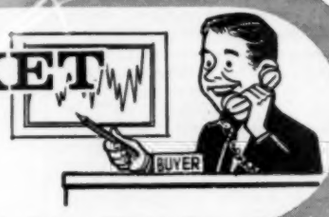
FDA regulations and attendant problems continue to receive attention, but some were citing some situations which appear favorable for industry—such as the clarification of medicated concentrate use, recent announcement of new clearances, mention of possible legislative changes and a report of continuing work to solve the arsenical problem.

These are just a few of the many things heard, and while they do reflect some problems, they also point up again the vital nature of the feed industry and the determination of it and its association to continue to move ahead.

So just as something happens when the swallows come back to Capistrano, or the cherry blossoms appear in Washington, we're sure there will be plenty happening when the dandelions bloom at Midway Airport again next AFMA-time.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS



NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

ALFALFA MEAL

Chicago: Demand and supply fair; trend unchanged; dehydrated, 17% protein, 100,000 units vitamin A $48@49.50.

Memphis: Demand fair; trend steady; supply adequate; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $43.50, down $6.50; reground pellets $52.50, down $2.

Los Angeles: Demand on dehydrated steady, suncured slow; trend steady; supply of dehydrated limited, suncured adequate; dehydrated meal, 17% protein, 100,000 A $51@52; dehydrated pellet meal, 17% protein, 100,000 A $53@55; suncured meal, 15% protein $43@44; suncured crumbles, 15% protein $45@46; all unchanged.

St. Louis: Demand fair; trend firm; supply limited; dehydrated, 17% protein, 100,000 units vitamin A, pellets $48.50, up 50¢.

Ft. Worth: Demand fair for dehydrated, slow for suncured; trend steady; supply sufficient; sacked: dehydrated, 17%, 100,000 A $50, truck or rail, unchanged; suncured: 13% ¼-in. grind No. 1 $45, truck; 15% fine ground, dry $47, with 2% fat added $49, rail or truck, unchanged.

Boston: Demand good; trend firm; supply fair; dehydrated, 17% $63, up $3; suncured, 13% $46, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A pellets $52.50@53.50.

Buffalo: Demand fair to poor; trend steady; supply adequate; $64.10, sacked, Boston, unchanged.

Kansas City: Demand fair; trend steady; supply tight for spot; 17% dehydrated alfalfa, 100,000 A, pellets $45@46, reground pellets $46@47; 18% dehydrated alfalfa, 125,000 A, pellets $47@49, reground pellets $48@50; 20% dehydrated alfalfa, 150,000 A, pellets $48@56, reground pellets $49@57; dehydrated prices unchanged; suncured alfalfa, demand slow, supply ample; 13% pellets $32@33, No. 1 ¼-in. $38, sacked, unchanged.

Portland: Demand fair; trend steady; supply adequate; 15% suncured $41; 20% protein, dehydrated pellet meal $67.50.

Minneapolis: Cool weather in the area is giving support to prices which some had expected to decline; 17% dehydrated, 100,000 units vitamin A reground pellets steady at $49, delivered Minneapolis; oiled reground pelleted $51.

Seattle: Demand fair; trend easy; supply ample; suncured, 15% protein $38, Seattle, down $10 (new crop); dehydrated, 150,000 A units $67, Seattle, down $4 (new crop).

Denver: Demand fair; trend steady; supply ample; $45.

ANIMAL FAT (STABILIZED)

Memphis: Demand good; trend steady at previous decline; supply adequate; yellow grease 7¼¢ lb., down ⅝¢; prime tallow 7⅛¢ lb., down ⅝¢.

Los Angeles: Demand and trend steady; supply adequate; 7⅛¢ lb., unchanged.

Chicago: Demand good; trend firm and unchanged; supply moderate; tank truck or carlot, bleachable fancy tallow $8.12½ cwt., yellow grease $7.37½@7.50 cwt.

St. Louis: Demand good; trend firm; supply ample; yellow grease 7⅝¢ lb., delivered tank cars or trucks, up ⅛¢ lb.

Boston: Demand spotty; trend mixed; supply adequate; tallow 8¼¢ lb., up ⅛@⅜¢; yellow grease 7¼¢ lb., off ⅛@¼¢.

Ft. Worth: Demand good; trend steady; supply moderate; prime tallow, tank cars 8¢ lb., drums 9¼¢ lb., f.o.b. north Texas packing plants with returnable drums, unchanged.

St. Paul: Demand good; supply ample; price remained steady at 7⅞¢ lb., f.o.b. producer's plant.

Kansas City: Demand fair; trend firm; supply available; stabilized prime tallow 7⅝@7¾¢ lb., up ⅛¢.

Atlanta: Demand good; trend steady; supply limited; 7⅜¢ lb., f.o.b. Alabama and Georgia processing plants.

BARLEY FEED

Baltimore: Demand and supply fair; trend unchanged; $44.50, sacked.

Chicago: Demand and supply fair; trend unchanged; $34, sacked.

Los Angeles: Demand slow; trend steady; supply adequate; $2.47½ cwt., unchanged.

Boston: Demand, trend and supply steady; $45, off $1.

Seattle: Demand fair; trend steady; supply good; $45, truck lots, unchanged.

Denver: Demand good; trend strong; supply short; $2.30 sacked, $2.05 bulk.

BLOOD MEAL

Chicago: Demand good; trend unchanged; supply fair; 80% protein $137.50, sacked.

Los Angeles: Demand slow; trend steady; supply ample; $5.25 a unit of ammonia, sacked, unchanged.

BONE MEAL (STEAMED)

Chicago: Demand fair; trend unchanged; supply moderate; $100, sacked.

Los Angeles: Demand fair; trend steady; supply ample; imported $86.75, 20 ton lots, sacked, unchanged.

Boston: Demand and trend steady; supply fair; $105, unchanged.

Ft. Worth: Demand fair; trend steady; supply sufficient; domestic $100, sacked, f.o.b. Ft. Worth, unchanged.

Cincinnati: Demand good; trend steady; supply adequate; $100, sacked, Cincinnati.

Buffalo: Demand good; trend strong; supply fair; $105, sacked, f.o.b. Buffalo, unchanged.

Seattle: Demand fair; trend steady; supply good; $92, f.o.b. car Seattle, sacked, unchanged.

Denver: Demand normal; supply ample; $115.

BREWERS DRIED GRAINS

Chicago: Demand fair; trend firm and unchanged; supply ample; 26% protein $33.

Los Angeles: Demand good; trend steady; supply limited; $50, unchanged.

Ft. Worth: Demand slow; trend steady; supply sufficient; 26% protein $50.50, sacked, unchanged.

Boston: Demand good; trend firm; supply fair; 25% $44, up $1.

St. Louis: Demand slow; trend easy; supply ample; 26% protein $33.50, down $1.

Cincinnati: Demand poor; trend steady; supply adequate; $41.75, up 75¢.

Buffalo: Demand and supply fair; trend steady; $44, Boston, unchanged.

BREWERS DRIED YEAST

Ft. Worth: Demand slow; trend steady; supply sufficient; 11½¢ lb., 5 ton lots, sacked, unchanged.

Chicago: Demand fair; trend steady; supply ample; 9½@10¢ lb., carlots, sacked; 9¾@12½¢ lb., l.c.l.

St. Louis: Demand fair; trend firm; supply ample; 9½@10¢ lb., carlots, sacked; 10½¢ lb., ton lots; 11½¢ lb., less than ton lots.

Boston: Demand and trend steady; supply steady; 11¢ lb., unchanged.

Los Angeles: Demand good; trend steady; supply limited; 10¢ lb., 5 ton lots; 11¢ lb., 1 ton lots; 12¢ lb., less than ton lots; all sacked and unchanged.

Cincinnati: 9@10¢ lb., sacked.

Buffalo: Demand fair; supply ample; trend little weaker; $8.45 cwt., off 5¢.

Seattle: Demand slow; trend steady; supply ample; $12 cwt., sacked.

CALCIUM CARBONATE

Ft. Worth: Demand normal; trend steady; supply sufficient; $4.50@5, f.o.b. north Texas, unchanged.

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100 lb. bags $9.54; bulk, in hopper cars $7.54; bulk in boxcars $8.04; granular grind $1 premium.

Minneapolis: Fine grind, 50 lb. bags $13.75; 100 lb. bags $13; bulk, boxcar $11.50; bulk, hopper $11; coarse grind $1 premium, delivered Minneapolis.

Cincinnati: Demand fair; trend steady; supply adequate; $7@7.50 cwt.

Los Angeles: Demand fair; trend steady; supply adequate; flour $9.85, 20 ton cars; meal $10.20, 20 ton cars; both sacked and unchanged.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, sacked.

Denver: Demand and trend steady; supply ample; $12.50, carload.

COCONUT OIL MEAL

Los Angeles: Demand good; trend steady; supply adequate; copra cake $65, unchanged.

Portland: Demand fair; trend steady; supply adequate; 20% solvent $62.20.

Seattle: Demand fair; trend firm; supply tight; solvent type $70, f.o.b. car Seattle, sacked, unchanged.

CONDENSED FISH SOLUBLES

Los Angeles: Demand good; trend steady; supply limited; 3½@3¾¢ lb., unchanged.

Ft. Worth: Demand fair; trend steady; supply practically unobtainable; tank car, West Coast production $4.16 cwt.; dried fish solubles $146.60 ton, unchanged.

Boston: Demand slow; trend unsettled; supply adequate; no quotations.

Denver: Demand and trend steady; supply ample; 3½¢ lb., West Coast.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are bulk basis, sacked basis $6 more)

Minneapolis: Feed $45.70, meal $78.70.
Atlanta: Feed $49.10, meal $82.10.
Birmingham: Feed $46.90, meal $79.90.
Boston: Feed $50.60, meal $83.60.
Chicago: Feed $39, meal $72.
Cleveland: Feed $47, meal $80.
Denver: Feed $49.30, meal $82.30.
Ft. Worth: Feed $47.80, meal $80.80.
Indianapolis: Feed $44.25, meal $77.25.
Kansas City: Feed $39, meal $72.
Louisville: Feed $45.55, meal $78.55.
New York: Feed $50.20, meal $83.20.
New Orleans: Feed $49, meal $82.
Norfolk: Feed $49.60, meal $82.60.
Philadelphia: Feed $49.80, meal $82.80.
St. Louis: Feed $39, meal $72.

CORN OIL MEAL

Seattle: Demand good; trend steady; supply ample; $54 car, up $1.

COTTONSEED OIL MEAL

Ft. Worth: Demand fair; trend steady to slightly easier; supply adequate; 41% old process $58, f.o.b. mills Ft. Worth; solvent, 2% fat added $58, delivered Ft. Worth, first half May; $60.40, May-June-July about unchanged; pellets $2 additional; hulls $14@15, unchanged.

Chicago: Demand fair; trend easier, down $1; supply moderate; Memphis basis: hydraulic $60.50, solvent $60.50.

Los Angeles: Demand moderate; trend steady; supply adequate; $60, unchanged.

Memphis: Demand fair; trend steady; supply ample; prime 41% protein, old process $60, down $1; new process, 41% protein $60, down $1.

St. Louis: Demand good; trend firm; supply adequate; 41% solvent process $60, Memphis, $1 lower.

Cincinnati: Demand fair; trend higher; supply adequate; $69, up $1.50.

Portland: Demand fair; trend mixed, but unchanged; supply adequate; 41% solvent $74.20@77.20.

Buffalo: Demand fair; trend lower; supply adequate; $81.25, sacked, Boston, off $1.

Kansas City: Demand slow; trend steady; supply ample; 41% old process $64; 41% solvent process $63.80, unchanged.

Seattle: Demand fair; trend firm; supply limited; 41% expeller $74, f.o.b. car Seattle, unchanged.

Denver: Demand good; trend strong; supply fair; $63.50, delivered.

Atlanta: Demand good; trend stronger; supply limited; 41% $67 Georgia, $62 northern Alabama, $59.50 Mississippi, $61 Tennessee producing mills.

CURACAO PHOSPHATE

New York: Minimum 14% phosphorus $43.50 sacked, $40.50 bulk, f.o.b. New Orleans, Jacksonville and Philadelphia.

DEFLUORINATED PHOSPHATE

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload $61.25, sacked, 100 lb. multiwall bags, bulk $58.25; truck load $62, sacked, in 100 lb. multiwall bags, bulk $59, f.o.b Coronet, Fla.

Tupelo, Miss.: Minimum phosphorus 14%, minimum calcium 23%, maximum fluorine .14% $52, f.o.b. Tupelo in 100 lb. multiwall bags, $49 bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 32%, maximum 36%, maximum fluorine .18% $66 (or $3.67 per unit of P), f.o.b. Wales in 100 lb. multiwall bags, $3 less in bulk.

Butte, Mont.: Minimum phosphorus 18%, minimum calcium 32%, maximum calcium 36%, maximum fluorine .18% $81 (or $4.50 per unit of P), f.o.b. Butte, 100 lb. multiwall bags; bulk $78; truck lots of less than 10 tons $10 more, bagged or bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $69.35 net ton, f.o.b. Houston, 100 lb. multiwall bags; $66.35 bulk ($3.65 per unit of P).

Ft. Worth: Demand fair; trend steady; supply sufficient; minimum 18½% phosphorus, maximum 31% calcium, maximum .18% fluorine $76.65, sacked, unchanged.

Cincinnati: 18% phosphorus, carlots $74.30, ton lots $84.30; 14% phosphorus, carlots $62.50, ton lots $72.50, f.o.b. Cincinnati.

Los Angeles: Demand slow; trend steady; supply adequate; 18½% phosphorus $95.10, sacked, unchanged.

Seattle: Demand and supply good; trend steady; $93.50, ex-dock, Seattle, sacked, unchanged.

DICALCIUM PHOSPHATE

Trenton, Mich.: 18½% P $83, bulk, boxcar/hopper car; $86, bagged, in less than carload lots; 21% P, $94.05, bulk, boxcar/hopper car; $97.65, bagged, in carloads or truck loads; $107.65, bagged, less than carload; all prices f.o.b. Trenton, freight equalized with nearest producing point.

Chicago: Bulk, carlots and truck loads, 18½% phosphate $78 and 21% phosphate $89; packed in 100 lb. papers, 10 tons or more, 18½% phosphate $81 and 21% $92; lesser quantities, 18½% phosphate $91 and 21% $102; above prices per ton, f.o.b. Chicago Heights, Ill., or Nashville, Tenn.

Bonnie, Fla.: Minimum phosphorus 18½%, granular, $81 (or $4.38 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices, for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho, $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

Columbia, Tenn.: Minimum phosphorus 18.5%, minimum calcium 24% $81, f.o.b. Columbia, in 100 lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Minimum phosphorus 18.5%, minimum calcium 20%, maximum calcium 23%, maximum fluorine .12%; carload and truck load $75.50, sacked in 100 lb. multiwall bags, bulk $72.50, f.o.b. Texas City.

Buffalo: Demand good; trend steady; supply adequate; $82.93, sacked, f.o.b. warehouse, Buffalo, unchanged.

Ft. Worth: Demand fair; trend steady; supply adequate; $81.50, sacked, unchanged.

Cincinnati: 18½% phosphorus $88.80, bagged in carloads; $93.70, bagged in ton lots, f.o.b. Cincinnati; $81, f.o.b. producing points.

Seattle: Demand good; trend steady; supply limited; $91, ex-dock Seattle, sacked, unchanged.

Denver: Demand good; supply ample; $88.50.

DISTILLERS DRIED GRAINS

Buffalo: Demand and supply fair; trend steady; $59, Boston, unchanged.

Louisville: Demand fair; trend steady; supply adequate; bourbon grains, dark $52, sacked and packed f.o.b. Louisville; bulk $5 less; light feed $1@3 less; solubles $73.

Cincinnati: Demand fair; trend steady; supply adequate; $51@52.

Boston: Demand active; trend firm; supply light; light $59, up $3; dark $61, up $4.

Seattle: Demand good; trend firm; none available; $71, delivered truck lots, sacked, unchanged.

DRIED BEET PULP

Los Angeles: Demand moderate; trend steady; supply adequate; $44.90@45.20, May-July, unchanged.

Portland: Demand good; trend steady; supply adequate; $47.58, sacked.

Buffalo: Demand fair; trend steady; supply fair to poor; $66, sacked, Boston, unchanged.

Boston: Demand good; trend firm; supply fair; $65, sacked, up $1.

Seattle: Demand good; trend steady; supply ample; $49, delivered carlots, sacked, unchanged.

Denver: Demand light; trend steady; supply scarce; $60.

Atlanta: Demand fair; trend steady; supply limited; $83.50, sacked, delivered.

DRIED BUTTERMILK

Buffalo: Demand poor; trend steady; supply ample; $10.55 cwt., unchanged.

Los Angeles: Demand fair; trend steady; supply ample; 13¾@14¢ lb., sacked, unchanged.

Boston: Demand good; trend firm; supply light; 14¢ lb., nominal.

Chicago: Demand and supply fair; trend unchanged; medium acid $10@10.50 cwt., sweet cream $10@10.50 cwt., both sacked.

DRIED CITRUS PULP

Buffalo: Demand poor; trend steady; supply adequate; $35, sacked, f.o.b. Florida points, unchanged.

Los Angeles: Demand and trend steady; supply light; orange pulp $43, lemon pulp $43, both nominal and unchanged.

Boston: Demand and trend steady; supply steady; $54.20, sacked, unchanged.

Atlanta: Demand and supply good; trend stronger; pulp $35, meal $30, both f.o.b. Florida processing plants and sacked.

DRIED SKIM MILK

Ft. Worth: Demand fair; trend steady; supply limited; $15.65 cwt., sacked, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; 12@13¢ lb., sacked.

Buffalo: Demand fair; trend steady; supply ample; spray $11.45 cwt., unchanged.

Chicago: Demand fair; trend unchanged; supply adequate; $10.50@10.85 cwt., sacked.

Los Angeles: Demand slow; trend steady; supply adequate; 14¢ lb., less than ton lots; 13¾¢ lb., ton lots; both sacked and unchanged.

Boston: Demand and trend firm; supply good; 13½¢ lb., unchanged.

Minneapolis: Price very firm at $12 cwt.

DRIED WHEY

Boston: Demand and trend steady; supply good; 5¼¢ lb., delivered, unchanged.

Los Angeles: Demand fair; trend steady; supply adequate; $5.18 cwt., carloads; $5.35 cwt., l.c.l.; both sacked and unchanged.

Chicago: Demand quiet; trend unchanged; supply fair; $5 cwt., sacked.

Kansas City: Demand good; trend steady; supply ample; $5 cwt., sacked, unchanged.

Ft. Worth: Demand fair; trend steady; supply adequate; standard $5, sacked, truck or rail, delivered Ft. Worth; ton lots $5.25, f.o.b. warehouse, Ft. Worth, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; $5.75 cwt., sacked.

Minneapolis: Supply ample; demand good; price off 5¢ at $5.10.

Seattle: Demand steady; trend easy; supply good; $5.85 cwt., ex-warehouse, l.c.l., unchanged.

Denver: Demand good; supply ample; $5.25.

FEATHER MEAL (HYDROLYZED)

Boston: Demand active; trend very firm; supply tight; $88, sacked, up $9.

Los Angeles: $1 a unit protein, sacked, unchanged, nominal.

Ft. Worth: Demand good; trend firm; supply extremely limited; 85% protein, nominal $86@87, unchanged.

Atlanta: Demand good; trend stronger; supply limited; $83, f.o.b. Georgia and Alabama processing plants.

FISH MEAL

Ft. Worth: Demand excellent; trend strong; supply extremely light for immediate; sacked: 65% protein Peruvian $126, May, up $2.

Boston: Demand active; trend strong; supply tight; 57% $110, nominal, unchanged; 60% $114, nominal, up $4.

Los Angeles: Demand limited; trend easier; supply light; local production, 60% protein $1.90 a unit, sacked, down 5¢.

Chicago: No old crop offerings; new crop sharply higher at $125 for Gulf menhaden; Canadian herring up sharply also at $1.90 a unit of protein.

Portland: Demand fair; trend higher; supply tight; $1.95 a protein unit, sacked.

Buffalo: Demand good; trend strong; supply very tight; 60% protein menhaden $120, f.o.b. Buffalo, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; $108.10.

Seattle: Demand good; trend firm; supply ample; $1.80 a unit protein, f.o.b. truck Vancouver, B.C. (Canadian production), unchanged.

Denver: Demand good; supply short; $1.85 a unit protein, West Coast.

Atlanta: Demand good; trend steady; supply very limited; 60% menhaden $115, f.o.b. Gulf and Atlantic ports, subject to catch.

HOMINY FEED

Los Angeles: Demand good; trend steady; supply adequate; meal $50, pellets $52, both unchanged.

Chicago: Demand fair; trend unchanged; supply moderate; $38.

Buffalo: Demand good; trend higher; supply fair; $49, Boston, up $1.50.
Kansas City: Demand fair; trend steady; supply adequate; white or yellow $33@33.50, unchanged.
Boston: Demand good; trend steady; supply steady; $47, up $3.
St. Louis: Demand fair; trend firm; supply ample; yellow $35.50, down $2.50.
Cincinnati: Demand poor; trend steady; supply adequate; $40.50, unchanged.
Seattle: Demand good; trend steady; supply limited; $53, delivered carlots, sacked, up $1.

LINSEED OIL MEAL

Boston: Demand and trend steady; supply light; 32% $77.20, unchanged.
Ft. Worth: Demand slow; trend steady; supply sufficient; 34% protein, extracted $71.40, May, about unchanged.
Los Angeles: Demand moderate; trend steady; local production, 31% protein $71, unchanged.
Chicago: Demand good; trend easier, down 50¢; supply moderate; Minneapolis basis: solvent $56, expeller $60.
Portland: Demand slow; trend steady; supply 34% solvent $85, sacked.
Buffalo: Demand fair; trend steady; supply adequate; $56.50, Minneapolis, unchanged.
Cincinnati: Demand poor; trend steady; supply adequate; new process $57.50, old process $61, Minneapolis, unchanged.
Minneapolis: Price remains unchanged; 32% solvent $56.50.
Seattle: Demand fair; trend steady; supply good; 34% protein (Montana) $85, delivered carloads, sacked, unchanged.
Denver: Demand fair; trend steady; supply ample; $69.50.

MEAT AND BONE MEAL

Boston: Demand active; trend firm; supply spotty; $1.65 a protein unit, up 5¢; converted, 50% $95, up $2.50.
Cincinnati: Demand good; trend firm; supply limited; 50% meat and bone scraps $109.50, Cincinnati, up $7.
Memphis: Demand good; trend slightly easier; supply adequate; 50% protein $106.50, without billing, down 50¢; 50% protein $110, with rail transit, down $3.
Portland: Demand slow to fair; trend higher; supply tight; 50% $99@100, sacked.
Kansas City: Demand good; trend firm; supply light; 50% $105, up $2.50.
Buffalo: Demand good; trend strong; supply very scarce; 50% meat scraps $105, f.o.b. Buffalo, unchanged.
Chicago: Demand good; trend unchanged; supply fair; 50% protein $102.50, sacked.
Los Angeles: Demand slow; supply limited; trend steady; 50% protein $1.95 a unit, unchanged.
St. Louis: Demand good; trend firm; supply adequate; 50% $105.
Ft. Worth: Demand good; trend steady; limited offerings for immediate delivery; meat and bone, 50% $102.50 bulk, $105 sacked, f.o.b. Ft. Worth, unchanged.
St. Paul: Market remained stable at $109@112.
Seattle: Demand fair; trend steady; supply limited; $2.05 a unit protein, ex-processing plant, sacked, unchanged.
Denver: Demand good; supply scarce; $98.

MEXICAN PHOSPHATE

Brownsville, Texas: Mexican natural ground rock, 13% phosphorus $39 sacked, bulk $2 less; 14% $43 sacked, bulk $2 less.

MILLFEED

Minneapolis: Sacked middlings were down 50¢ to $38.50; sacked bran was $40, bulk $5 less; red dog sacked price went up $1 to $45 recovering part of the $2 decrease of last week.
Kansas City: Demand fair; trend firm; supply tight for immediate; sacked bran $37.50@38, unchanged; sacked shorts $37.50@38, unchanged; bulk bran $30.50@31, up $1.50; bulk shorts $31@31.50, up $1; bulk middlings $31@31.50, up $1.
Ft. Worth: Demand poor; trend of bulk unchanged and sacked declining; supply ample; bran, bulk $41, burlaps $45; gray shorts, bulk $41, burlaps $45; bulk middlings $41, delivered Texas common points; bulk bran up $1, bulk shorts and middlings up 50¢; sacked bran down $1 and sacked shorts down $1.50.
Chicago: Demand good; trend irregular; supply moderate; standard bran $37.50@38; standard midds. $38@38.50; red dog $40.50@41.
St. Louis: Demand good; trend firm; supply ample; sacked bran and shorts $42.25, down 25¢; bulk bran $35, unchanged; bulk middlings $35.50, down 50¢.
Cincinnati: Demand poor; trend lower; supply adequate; bran $42, middlings $43, both down $2.
Buffalo: Demand fair to good; trend higher; supply fair; bran $41.50, f.o.b. Buffalo, up $3; red dog $55, sacked, f.o.b. Buffalo, up $3; middlings $55, sacked, f.o.b. Buffalo, up $3.
Boston: Demand cautious; trend easy; supply plentiful; bran $47.10, off $2.40; middlings $48.60, off $1.90.
Memphis: Demand fair; trend steady; supply ample; wheat bran $38.30, down 50¢; gray shorts $38.80, down $1; standard midds. $38.80, down $1.
Seattle: Demand fair; trend easy; supply ample; $38, delivered common transit points, carlots, down $1.
Portland: Demand slow; trend steady to firm; supply tight; $37.50@38.
Denver: Demand steady; supply limited; shorts $37@37.75, bran $37@37.75, millrun $37.75.
Los Angeles: Standard millrun $45@45.50, up 50¢, demand improved, trend firmer, supply lighter; red bran $48.50@49.50, down 50¢, demand slow; trend easier, supply ample.

MOLASSES

Kansas City: Demand fair; trend firm; supply tight; blackstrap 14½¢ gal., f.o.b. New Orleans, unchanged.
Buffalo: Demand and supply good; trend steady; 16½¢ gal., f.o.b. Albany, unchanged.
Boston: Demand and supply good; trend steady to firm; 16½¢ gal. in tank cars, unchanged.
Los Angeles: Demand good; trend steady; supply limited; $25.50, f.o.b. tank cars; $26.75, f.o.b. tank trucks; both unchanged.
Memphis: Demand poor to fair; trend firm; supply ample; blackstrap 14½¢ gal., tank car, f.o.b. New Orleans, up ½¢; $30.59 ton, delivered Memphis, truck, down $1.28.
St. Louis: Demand fair; trend firm; sup-

(Turn to QUOTES, page 76)

Soybean Meal Declines in Mixed Market

A decline in the price of soybean meal was the feature of the feed ingredient market this week. Soybean meal prices dropped $2 to $5. Showing the greatest price advance in the market was meat meal which was up $2.45, according to the U.S. Department of Agriculture (see table).

The generally mixed market the week ending May 9 showed a decline, influenced mainly by the soybean meal decline.

Tankage prices were generally unchanged to up $4.50. Millfeeds were generally easier.

East

BUFFALO: The $4.50 drop in soybean oil meal featured a mixed ingredient market last week. Corn also headed lower, with a 1 to 1½¢ decline. Oats and barley, however, moved up 1¢. Feed wheat slipped 2¢ on prospects of an accumulation of Canadian grain at upper Great Lakes ports.

Animal tallow was weak at 8⅛¢ lb., and is likely to work lower on the assumption that the Russians have withdrawn from the market. Molasses was steady and in plentiful supply. Cottonseed oil meal backed down $1, but linseed oil meal and gluten meal held steady. Both fish meal and meat scraps were unchanged. Hominy feed attracted more attention and advanced $1.50. Brewers' grains, distillers' grains, gluten feed and alfalfa meal were steady. Millfeeds worked higher, with bran and red dog up $3 and middlings up $2. The sacked differential on bran and middlings held steady at $5.50.

BOSTON: Millfeeds were highly irregular in the local market during the week. Fish meal and meat and bone meal were actively sought and firmer while millfeed and soybean meals were plentiful and meeting with considerable price resistance. Brewers and distillers grains showed modest strength and offerings were readily cleared.

PHILADELPHIA: Few price changes were noted here during the week and demand was of a hand-to-mouth character.

Dehydrated alfalfa meal, new crop, was moving at $55 bulk and 26% brewers' grains were in fair demand at $42. Price of 44% soybean meal moved a little lower to $69 bulk, Decatur, with demand slow. Cottonseed meal is in tight supply and prices moved higher to $77; there was little demand.

Linseed meal remained about steady. Millfeeds were in fair demand with prices a little higher.

Feeds: Average Bulk Prices and Index of Weighted Prices*
(Dollars per ton)

	May 9, 1961	May 2, 1961	Change from previous week
OILSEED MEALS			
Prices at prin. mkts.:			
Soybean meal	80.65	84.80	—4.15
Cottonseed meal	63.30	62.90	+ .40
Linseed meal	65.20	64.85	+ .35
Copra cake or meal	58.50	58.50	...
Peanut meal	62.00	61.25	+ .75
Index	97.2	100.5	—3.3
ANIMAL PROTEIN FEEDS			
Prices at prin. mkts.:			
Meat meal	103.00	100.55	+2.45
Tankage	102.40	101.65	+ .75
Fish meal	110.00	110.75	— .75
Index	89.9	88.5	+1.4
GRAIN HIGH-PROTEIN FEEDS			
Prices at prin. mkts.:			
Gluten feed and meal	50.95	51.35	— .40
Dist. dried grains	52.20	52.20	...
Brewers dried grains	38.35	38.10	+ .25
Index	77.4	77.8	— .4
WHEAT MILLFEEDS			
Prices at prin. mkts.:			
Bran	40.15	40.65	— .50
Midds. and shorts	40.25	41.50	—1.25
Index	72.6	74.2	—1.6
OTHER MILLFEEDS:			
Prices at prin. mkts.:			
Hominy feed	40.60	40.60	...
Rice bran	29.00	29.00	...
Index	62.3	62.3	...
ALFALFA MEAL			
Prices at prin. mkts.	49.90	49.95	— .05
Index	96.1	96.2	— .1
MOLASSES, FEEDING			
Prices at prin. mkts.	28.18	27.76	+ .42
Index	83.9	82.6	+1.3
ALL FEEDSTUFFS			
Index	87.8	89.6	—1.8
FEED GRAINS			
Prices at prin. mkts.:			
Corn	39.30	39.30	...
Oats	44.50	44.40	+ .10
Barley	41.90	41.80	+ .10
Grain sorghums	39.80	39.00	+ .80
Index	64.0	64.0	...

*Base period of index is 1947-49.
Source: USDA.

Midwest

MINNEAPOLIS - ST. PAUL: The local ingredient market was generally quiet during the week. However, soybean meal continued in the spotlight. It was off once again by $2 to $3.

Animal proteins continued in good demand. Price of tankage declined $1 to $104 to $109. Meat and bone meal remained stable.

In the millfeeds, sacked middlings declined 50¢ while red dog went up $1 recovering part of its $2 decline of last week.

Earlier cool weather in the area was still giving support to alfalfa meal prices which some had expected to decline. Pellets were steady at $49 and oiled reground pellets were steady at $51.

The price of linseed meal remains unchanged at $56.50 for 32% solvent.

ST. LOUIS: Feedstuffs trading slackened in a quiet market this week. Prices softened on a number of important ingredients and this made for greater hesitancy on the part of mixers. Buying was mostly limited to immediate or nearby shipment and quantities usually were small. Supplies were adequate for trade requirements. Some trade was held down by the fact that many buyers were away from the their offices attending the AFMA convention in Chicago.

Demand for alfalfa meal was light, with buyers waiting for new crop supplies and lower prices. In some cases, mixer inventories were nearly exhausted. Rain and cold weather continued to hold up new crop shipments. With middlings down to a lower price level, buyers were less interested in offerings of yellow hominy and values slumped $2.50. Brokers said that inquiries for all high protein ingredients were off a bit. Supplies were more liberal and prices under pressure.

South

MEMPHIS: The trend was down in the ingredients market during the week.

Although animal fat usage was still good, some easiness developed near the end of the period. However, the market appeared to have stabilized at present levels.

Heavy use of meat and bone meal, as well as poultry by-products, was reported, although most buyers are booked through May. Little interest was apparent for June at current prices, however.

Cottonseed oil meal is nearing the end of supplies for this season. The supply is still ample to meet the fair demand. Prices of oilseed meal futures declined on the Memphis Board of Trade, compared with a week earlier.

Soybean oil meal reflected a weaker tone, due mainly to continued soybean futures selling. Futures and cash oil meal were pulled down by profit-taking in the soybean market. Unrestricted soybean oil meal closed May 9 40¢ to $4.25 a ton lower than May 2, Eastern Trunk Line soybean oil meal was unchanged, and bulk solvent cottonseed oil meal was $1 to $2 lower.

Trading volume for the week amounted to 7,300 tons of unrestricted soybean oil meal and 300 tons of bulk solvent cottonseed oil meal.

LOUISVILLE: The distillers dried grain market continues on a very steady basis with demand reasonably good and no reported heavy accumulations at any of the larger distilling centers.

Considerable production is expected to go off the market by mid-June, when many distillers will close down until mid-September, in the usual closedown over the hot weather months.

Southwest

KANSAS CITY: The prices of feed ingredients have moved around considerably this week but total changes for the week are small in most cases.

The soybean meal market was sharply lower the early part of the week but moved up late in the week to be nominally unchanged. Track supplies have been readily available and most mixers are limiting their purchasing to spot needs only.

New crop alfalfa production got under way in Kansas this week as the fields dried out from recent heavy rains. Early production was light and the quality high. Spot cars were readily absorbed and prices held well. The coming week should see heavier production from Kansas.

There was a further contraction in flour grind this week with some large mills operating four days. While demand was anything but brisk prices worked higher as the limited offerings were readily absorbed.

FT. WORTH: Quotations on most feed ingredients were unchanged from the previous week with soybeans being the exception. Soybean meal was down $2 to $3.50.

Sacked millfeed was down $1 to $1.50 but bulk millfeed was up 50¢ to $1. Fish meal was nominally $2 higher but hard to find. Prices on most of the animal fats were steady and offerings limited. Hydrolyzed animal and vegetable fat was up ⅜¢ lb. and in excellent demand.

Suppliers complained of the slow demand for all feed ingredients with the exception of those that were in scarce supply.

Grains were unchanged with the exception of corn which was up 1½¢ bu.

West

PORTLAND: An irregular price trend continued to rule Pacific Northwest feed ingredient trading this week.

Substantial gains for fish meal and some feed grains along with firmness for wheat millfeeds were counterbalanced by a $5 a ton decline in soybean meal and further weakness for meat and bonemeal values.

Quotations for animal protein feeds were mixed. Listings for Canadian herring meal advanced as much as 10¢ per protein unit while meat meal values closed $1 to $2.50 a ton lower

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in front of larger outside market offerings.

Wheat millfeed prices closed unchanged to 50¢ a ton higher as the result of a smaller regional flour grind during the trading period. Alfalfa meals held unchanged after last week's adjustment for dehydrated offerings. Molasses dried beet pulp prices held steady in front of a good call for ensilage purposes.

Corn quotes held unchanged but milo sold $1 a ton higher with barley gaining 50¢ during the week.

SEATTLE: The grain market was quiet again this past week with very little fluctuation. Corn was off about 50¢ per ton. Milo again strengthened closing at $50.50 per ton, a rise of $1.50 per ton. Barley and oats were unchanged once again.

Soybean oilmeal plunged $4 per ton to $92.60, the first substantial drop for several weeks. Fifty per cent meal was quoted at $9 over 44%, a higher premium than usual. It is the general consensus of opinion here that speculators are causing the wild fluctuations in the market. Cottonseed meal was unchanged this week with 41% expeller offered at $75 and 44% solvent at $84. Herring meal was strong due to supplies being pretty well cleaned up in British Columbia and Peruvian fishmeal now in short supply. Meat meal was unchanged at $2.05 per unit. Linseed oil meal and copra meal were stable and unchanged at $85 per ton and $69 per ton, respectively.

QUOTES

(Continued from page 75)

ply ample; blackstrap 14½¢ gal., tank car, New Orleans, up ¼¢.

Ft. Worth: Demand fair; trend steady; supply sufficient; blackstrap 14¾¢ gal., f.o.b. Houston; truck $31.92, delivered Ft. Worth, seller's market price on date of shipment, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; 14½@14¾¢ gal., New Orleans.

Minneapolis: Local market continued steady at these prices: blackstrap $35, tank truck, delivered; beet $31, blend $33.

Seattle: Demand and supply good; trend firm; $25.75, f.o.b. Seattle, tank truck lots, unchanged.

Denver: $33.60 car, Denver.

Atlanta: Demand good; trend steady; supply limited; citrus $20@22, f.o.b. Florida processing plants.

OAT PRODUCTS

Buffalo: Demand fair; trend steady; supply adequate; $26.75, sacked, Boston, unchanged.

Kansas City: Demand good; supply adequate; trend stronger; oat mill by-product $14.50@15, sacked, unchanged; feeding rolled oats $70@72, sacked, up $1.

Chicago: Demand and supply fair; trend unchanged; reground oat feed $12; No. 1 fine ground feeding oatmeal $66; feeding rolled oats $70.

St. Louis: Demand fair; trend firm; supply ample; white pulverized $43.50, up $1.50; reground oat feed $13.50, unchanged.

Ft. Worth: Demand slow; trend steady; supply sufficient; 10% protein oat millfeed $41.80, sacked, unchanged; reground $21.30, sacked, unchanged.

Boston: Demand fair; trend unsettled; supply adequate; white pulverized, sacked $51, off $1; reground oat feed, sacked $21, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; pulverized white oats $44@50, unchanged.

Minneapolis: Demand good; prices steady; sacked feeding rolled $77; sacked feeding oatmeal $63.50; sacked pulverized $42.50; sacked crimped $60, sacked oat feed $20.

Seattle: Demand and supply fair; trend steady; 58 lb. or better $56, delivered, truck lots, unchanged.

OYSTER SHELL

Cincinnati: Demand fair; trend steady; supply adequate; 50 lb. bags $24.60, 25 lb. bags $26.85.

PEANUT OIL MEAL

Los Angeles: Demand and trend steady; supply adequate; $80.50, sacked, unchanged.

Atlanta: Demand good; trend stronger; supply limited; 45% $63, f.o.b. Alabama for solvent process.

POULTRY BY-PRODUCTS

Boston: Demand active; trend firm; supply good; $95, up $10.

Los Angeles: Demand good; trend steady; supply limited; $1.75 a unit of protein, sacked, unchanged.

Memphis: Demand good; trend steady; supply barely adequate; 55% meal $110, sacked, with billing, unchanged.

Ft. Worth: Demand fair; trend steady; supply extremely scarce; $105, nominal, sacked, f.o.b. Texas plants, unchanged.

Atlanta: Demand good; trend stronger; supply very limited; meat meal $97, f.o.b. Georgia and Alabama processing plants.

SOYBEAN OIL MEAL

Portland: Demand slow; trend lower; supply adequate; $92.10 for 44% protein test, Portland; $102.10 for 50%, same basis.

Buffalo: Demand fair; trend lower; supply good; $68, Decatur, off $4.50.

Kansas City: Demand poor; trend steady to stronger; supply ample; 44% solvent process $69.50@70, Decatur, down $2.

Ft. Worth: Demand fair; trend fluctuating; supply sufficient; 44% $80.70 May, down $2.80; $82 June, down $3.50; 50% $91.50 May, down $2; $92.50 June, down $3.

Boston: Demand slow; trend easy; supply ample; prices f.o.b. Decatur: 44% $68, off $4; 50% $78, off $5.

Los Angeles: Demand slow; trend weak; supply adequate; $93.10@94.10, down $3.50@4.

St. Louis: Demand fair; trend easy; supply ample; 44% solvent $71.50, Decatur, down $3.50; 50% $81.50, down $2.50.

Chicago: Demand good; trend easier, off $2.50@3; supply ample; Decatur basis: 44% protein, unrestricted billing $72.50, E.T.L. $69.50; 50% protein, unrestricted billing $82, E.T.L. $79.

Minneapolis: Soybean meal prices were off $2 to $3 under ample supplies; 44% was off $2 at $66.50, Decatur; 50% was off $3 at $73.50.

Denver: Demand good; trend strong; supply ample; $82.

Seattle: Demand fair; trend firm; supply ample; $98.20, delivered carlots, unchanged.

Atlanta: Demand and supply good; trend stronger; 44% $83 delivered.

TANKAGE

Kansas City: Demand good; trend firm; supply tight; 60% digester $105, up $2.50.

Chicago: Demand good; trend unchanged; supply fair; 60% protein $105, sacked.

Ft. Worth: Demand good; trend steady; supply very scarce; 60% digester $110, sacked, Ft. Worth, unchanged.

Cincinnati: Demand good; trend firm; supply limited; 60% digester $109.50, Cincinnati, up $4.50.

St. Paul: Demand good; supplies fair; price was off $1 at $104@109.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Ft. Worth: Demand excellent; supply limited; trend strong; 7¾¢ lb., f.o.b. north central Texas, up ¾¢.

Los Angeles: Demand slow; trend steady; supply adequate; 7¾¢ lb., unchanged.

Walter C. Berger Elected to CSC Board

NEW YORK — Walter C. Berger, former administrator of the Commodity Stabilization Service and executive vice president of the Commodity Credit Corp. of the U.S. Department of Agriculture, has been elected to the board of directors of Commercial Solvents Corp., it was announced by Maynard C. Wheeler, president. Mr. Berger is an authority in the planning and management of broad national farm programs. He has taken a leading role in agricultural and allied industries for more than 30 years. He was president and chief executive of the American Feed Manufacturers Assn. from 1946 to 1952 when the feed business rose to become the ninth largest industry in the nation. Mr. Berger has been a member of the boards of directors and executive committees of the National Grain Trade Council, and of the Poultry & Egg National Board.

Walter C. Berger

Dr. Salsbury's Names Education Manager

CHARLES CITY, IOWA—Dr. Haskell E. Willingham, a poultry specialist with a doctorate in nutrition, is the new education manager of Dr. Salsbury's Laboratories. He succeeds W. James Orem, who becomes a new territory manager for Florida and southeastern Georgia.

Dr. Willingham received his B.S. degree in poultry husbandry from Oklahoma A&M and his M.S. degree in poultry nutrition from Texas A&M. His doctorate is from Washington State University.

Dr. Willingham

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AFMA OFFICERS—Officers of the American Feed Manufacturers Association assembled shortly after their election during the 53rd annual AFMA convention in Chicago, May 8-10. Seated is W. E. Glennon, Chicago, who begins his ninth year as AFMA president; standing, left to right, are W. T. Diamond, reelected secretary-treasurer; Dean McNeal, The Pillsbury Co., reelected chairman of the board, and Herman (Jack) Jensen, Golden Sun Milling Co., new vice chairman of the AFMA.

OFFICERS

(Continued from page 1)

president of the association and W. T. Diamond was reelected secretary-treasurer.

Mr. McNeal was graduated from Kansas State University and taught economics and marketing there prior to joining the Ralston Purina Co. as manager of that firm's agricultural forecasting division. He served as a deputy administrator in the OPA during World War II and in 1947 joined the Pillsbury Co. as director of the business analysis department. He advanced to vice president in charge of procurement and economic planning and is now in charge of the feed and soy division, grain merchandising and feed ingredient merchandising. Mr. McNeal is a past member of the AFMA executive committee and is now completing his current term as a member of the association's board of directors.

Mr. Jensen was born and raised on an Iowa farm and together with his father and a brother started the Golden Sun Milling Co., Estherville, Iowa, in 1925. The firm, started as a four man operation, had over 100 employees at the time it was sold to John Morrell & Co. in 1960.

Long active in AFMA affairs, Mr. Jensen served two terms on the association's board of directors and is one of the five originators of the AFMA sales executives committee. He is a past member of the board of directors of the Western Grain & Feed Dealers' Assn. Mr. Jensen also helped organize Feed Distributors, Inc. and the Feed Institute.

Mr. Glennon, as executive president of the AFMA, was reelected to a post he has held with the association since 1952. A graduate of the University of Illinois, he joined the Bement Grain Co., Bement, Ill., as assistant general manager in 1934, becoming general manager in 1937. He joined the AFMA in 1945 as assistant to the AFMA president. He held the position of association secretary and that of secretary-treasurer before being elected executive president in 1952.

Mr. Diamond, an Iowa State University graduate, came to the AFMA in 1948 after experience as a county agent, and dairy organization field representative.

He served as director of the AFMA's agricultural service division until 1952, at which time he became secretary-treasurer.

BROILERS

(Continued from page 1)

er contracts are giving serious thought to the possible revision of contracts. A spot check this week revealed the thinking of a number of feed men who say that if the market continues in the 13-14¢ bracket, new contracts are a necessity.

Contract revisions are "a must; positive, immediate contract cuts are the consensus of mills," reported a south Georgia milling executive, J. C. Thomas, Jr., of the Adel (Ga.) Milling Co.

Reports from Virginia are that some feed companies are also considering lower contracts to offset losses in the market. In this state, there has been considerable talk in recent months of a contract which would revise the percentage of profits to hatcheries, growers and feed men. The current market situation has put more emphasis on this new contract talk. Under the proposed contract that some dealers are talking about in Virginia, hatchery men would get approximately 25% of the profits, growers 38% and feed dealers 36%.

In north Georgia, reports indicate that already some contracts are being reduced, according to an official of one of the larger feed companies.

The market continued to show a turn for the better this week with some live supplies generally short of a good ready-to-cook demand. Payments for delivered broilers ranged ½ to 1¼¢ lb. higher. A few of the better grades brought fractions above 15¢, but the general price was in the neighborhood of 13 to 14¢, still below the breakeven price of 15¢. In some cases shortages of hatching eggs were reported.

Almost everyone in the industry, from the processor to the grower and the feed man, has the opinion this week that the market is not going to turn for several weeks and operations are being girded for this period.

As one executive of a feed company said:

"It will not be 'good' for a long time."

Another feed man said he would predict prices would jump to 15 and 16¢ in 60 to 90 days. For the next 30 days, his prediction was 14 to 14½¢.

Industry leaders still feel that the situation will adjust itself, pointing out that the broiler business has always been a "risk" business and that the better companies have been prepared for the current situation.

"It is my prediction that the poultry industry will and is adjusting itself," reported Mays Montgomery of Dixie Home Feed, Athens, Ala.

Mr. Montgomery ventured the opinion that the adjustment may require three to four months.

Several areas are reporting broiler

houses being left vacant as they are being worked out. These reports came from north Alabama.

Other reports from Georgia said, however, there has been no definite trend toward the closing of houses.

Construction of new houses is still going on in Georgia. Houses that were under construction when the price break hit are being finished and others are still being planned, it was understood. In the eastern part of the state, however, a slowing down process was underway.

C. K. Laurent, president of the Georgia State Feed Assn., said there are indications that "the adjustment of the price situation could come quicker this time" than during other declines. The reasons, he said, are due to better financial positions of the people in the industry. He said he feels the present situation is "another cycle" and perhaps will run until the first of the year.

Credit is something being watched closely by all feed mills, a check shows. Operators are cutting down on the amount of credit being extended. Part of this restricting of credit is being reflected in the amount paid on contracts, one source said.

J. C. Thomas of Adel, Ga., reported that mills are "weeding out the 'boarder' growers."

In all probability mills are going to go through a cutback in production, too, as the overproduction problem is handled in the adjustment.

Every mill man, with the exception of one, reported affirmatively to the question of whether mills are anticipating reductions in schedules.

However, brokers in Atlanta said business is continuing fairly good for immediate orders. They are acting conservatively, though, in booking orders for fall deliveries.

"Growers are realizing 3 to 5¢ per head on contracts on a 14¢ market," remarked a Virginia feed man, who said no new contracts are being put into effect in his area.

"This is definitely an adjustment period. We should see some improvement in 4 to 6 months," he further stated.

Mills are not reducing schedules but they are not increasing their runs either, he said.

Another mill executive in Virginia said efforts are being made to reduce grower contracts, based on ingredient costs, with a minimum of $25 per 1,000 guarantee.

This official said he does not see a general improvement in the market for "another 10-12 months."

Yes, he said, mills are anticipating reductions in running schedules and are cutting down on credit to growers.

"Some report the market will not improve before the first of the year. We do not see how many could continue at the present price," reported K. S. Crittenden of K. S. Crittenden, Inc., Charlotte, in commenting on the situation in North Carolina. He also said some growers are closing down houses, according to reports reaching him.

PREDICTIONS

(Continued from page 1)

lowing effects of the 1961 feed grain program:

- More feedstuffs will be pumped into animals than otherwise probable. Expansion of animal numbers and animal production beyond levels that otherwise would have occurred is likely. ("Remember, however, that we already are in an expansion phase of most animal production cycles.")
- Animal numbers could reach a peak in 1962 and start adjusting downward by mid-year. Hogs, layers, turkeys and beef cattle could experience reductions.
- Assuming average weather and no material change in international tensions in the year ahead, the feed industry can confidently look for most animal and animal product prices to be under considerable pressure in 1962. Broilers could be "the bright exception."
- Higher average feed costs in the feeding year starting with October, 1961, are promised.
- Manufactured feed volume in the 12 months starting with October, 1961, should be big—an all-time record—but margins are likely to be narrow because of the anticipated pressures on animal product prices.
- The corn price pattern ahead looks like this: The free market price of corn this coming October-December probably will again reflect actual or threatened CCC corn sales and is likely to average 12-18¢ below the effective loan rate. A number of factors indicate corn price strength in the spring of 1962.

"More Political Than Economic"

Dr. Fitzgerald spoke in terms casting disfavor upon the omnibus farm bill now before Congress, and he declared that the 1961 feed grain program's acreage restriction compliance issue "has more political significance than economic use."

"The odds are pretty good that we shall get some kind of new law that will look as if it meets most of the qualifications of the main points requested by the administration for a commodity-by-commodity approach to agriculture," Dr. Fitzgerald said. "I pray it will involve significant changes limiting the authority of the administrative branch of government more in line with the intent of our federal constitution.

"There may be a few fringe-type commodity programs put through under the new legislation. Within these programs we could see many new words such as marketing agreements, two price plans, direct income payments, price boosting and acreage control programs.

"Could we get, say, a cranberry program? A sweet potato program? Or maybe one for dill pickles? Possibly the turkey and broiler producers will get one—but how do you define a broiler producer? Who would vote on the proposals?"

In Dr. Fitzgerald's opinion, "the really confusing commodities"—wheat, feed grains, hogs, cattle and eggs—face a severe struggle. He said the conflict of interests within agriculture, commodity by commodity, is so extreme that we have not yet been able to effectively legislate and administer supply control programs for any one of the major commodities in a generally satisfactory manner.

He asked more questions: "Who can write a commodity program for cattle? Would it be the western ranchers? Would it be the Midwest feeders? Would it be the cull cow or the cutter and canner committee? Or how about a vealer committee?"

And he had these words of warning for the Kennedy administration: "The same old problems will continue to plague legislators on the New Frontier. Even though we may try a commodity-by-commodity approach and go a long way in developing such programs, one must predict their eventual failure."

Industry Change

The feed industry, as other segments of agri-business, faces "a fantastic rate of change. Rapid adaptability becomes more vital each year," he said. "Flexibility in management structures becomes more and more important for profits. Faster reactions to changing market conditions are being demanded. Correct evaluation of the economic consequences of the various agricultural programs proposed and enacted and the development and implementation of proper decision response, shall continue to be important determinants of success in the animal feed industry. . . .

"Feed manufacturers heavily involved in integrated animal production programs will feel the pressure of low animal prices more than those with more modest financial exposure. And stresses of the future shall be more severe for those individuals and firms not prepared for the probable demand, supply and price adjustments that lie ahead."

"Soybeans No. 1"

In his analysis of the effects of the feed grain program, Dr. Fitzgerald called soybeans "the fair-haired lady of the Corn Belt," and he placed corn in the second place position of prominence.

"Once farmers decide how many soybeans to plant this spring, their thoughts will turn to corn. . . . Farmers in the corn and soybean areas have two big new incentives to plant more soybeans than indicated by the March 1 planting intentions: (1) The price support provides a favorable minimum guarantee relative to corn and (2) current high market prices will lead many to great hopes for the next year."

Telling why he believes the compliance issue is more useful in politics than in economics, Dr. Fitzgerald commented:

"What is often forgotten is that a given indicated reduction in corn acreage in compliance with the emergency feed grain program need not at all mean a similar decrease in corn production.

"First of all, the poorest land is the first to go into the program. Then farmers can take their preliminary payments and apply more fertilizer to their remaining corn on the better land which is planted in rows just that much closer together.

"Add to this the long-term increase of about 3% in yield per acre and the fact that many non-compliers will increase their acreage, and you can see that the actual reduction in production could be much smaller than a given compliance figure would indicate.

"So this still leaves weather as the biggest unknown in the corn picture in 1961."

Dr. Fitzgerald looks for free market corn prices to be 12-18¢ under the effective loan rate this fall because:

"1. The U.S. Department of Agriculture has publicly stated its intent to sell sufficient corn to penalize those who do not comply with the 1961 program. Also, non-eligible loan corn will be coming to market from those who do not comply and from compliers who get better than their allotted yields.

"2. Since it is likely corn can be stored in anticipation of a price rise sufficient to pay storage and related costs to the spring of the year, prices should not drop below the indicated range, for whenever the market price drops to or below the costs of storing to the next spring and summer, many will stand ready to perform this economic function."

Factors indicating corn price strength next spring, according to Dr. Fitzgerald, are these:

"1. Congressional elections are coming up in November, 1962. If the administration wants its feed grain program to look good it needs to reduce Commodity Credit Corp. stocks—and the rate of new acquisition—and it needs to raise the price of corn.

"2. Total feed grain production in 1961 will be down. Substantial quantities of CCC corn will be needed."

GOALS

(Continued from page 1)

better and more prosperous industry."

He directed these questions at AFMA's membership:

"What are the specific areas to which AFMA and the feed industry must devote additional time and effort in the future?

"Are there any new activities or projects that are timely and should be considered?

"What specific role should our association play and what changes should be made if we are to be of the greatest value to our rapidly changing industry?"

Answers to these questions, Mr. Glennon indicated, will help AFMA plan for the future. "The wise man attempts to chart his course in advance; only the fool stumbles blindly along any unknown road on which he finds himself," he said.

Among the more critical areas in which AFMA will focus greater attention is assisting members in interpreting the increasing activities of the Food and Drug Administration, along with state laws and regulations governing the manufacture and distribution of feed. He noted that to assist members in this broadening field, AFMA last year added a staff member—Lee H. Boyd, director of feed control and nutrition.

Cognizant of the fact that overall agricultural policies affecting the feed industry will have their focal point in Washington, Mr. Glennon reported that AFMA has activated a legislative committee and has retained representation in the nation's capital.

"There is no telling at this point how large a part federal legislative proposals will play in the future of agriculture and agri-businesses, but there is certainly a growing awareness that government has become the biggest 'not so silent' partner in every enterprise," he said.

"It behooves us to do a better job in our communications with legislators and we feel that one of AFMA's most valuable contributions to the industry will be to work for better cooperation with both administrative and regulatory bodies, and a fair and honest presentation of practical industry problems."

He said the five general categories of industry interest which will receive increased attention from AFMA are: Government relations, public relations, economic and market research, food and feed, and ethics.

Mr. Glennon said the association and the industry it serves must keep in mind that changes and new trends are taking place in agriculture. Surviving these changes requires flexibility.

AFMA members should try to anticipate how the farmer will be thinking and operating in the years ahead, Mr. Glennon advised. And to help the feed industry do this, AFMA has accepted the task of keeping members abreast of agricultural advances and developments in the market place.

ALLIED MILLS

(Continued from page 1)

and negotiations have now been discontinued," E. W. Lenz, Allied Mills president, said this week.

In a letter to Wayne dealers pointing out that discussions had been discontinued, Mr. Lenz also noted that Allied Mills sales for the 10 months of the current fiscal year are running more than 6% ahead of last year. During the month of April, he pointed out, sales of Wayne Feeds were approximately 10% ahead of the same month last year.

Commenting this week on the earlier merger discussion report, Mr. Lenz said: "It is true that an interest was initiated on the part of the Anheuser-Busch officials and a suggestion was made that exploratory discussions be held to determine whether, through a merger procedure, benefits would accrue to the shareholders, employees, dealers and consumers of the products of the respective companies."

However, he added, it has been agreed that a merger would be of no particular advantage to either firm.

"You may rest assured," he told dealers, "that Allied Mills, Inc., will in no way be affected by these exploratory discussions and that our company will continue in the same manner as before. . . . We, as always,

are grateful to you for your interest and cooperation, which over the years have been major factors in the growth and success of our company."

At the time of the earlier report, the Wall Street Journal said that Anheuser-Busch was "studying Allied Mills as a diversification move."

Anheuser-Busch is one of the country's largest brewers. The firm's sales in 1960 were reported at $308,755,069, with net income of $15,415,910.

For its fiscal year ended June 30 1960, Allied Mills' sales were $105,657,128, with net income of $2,455,000. As noted above, sales during the current fiscal year are higher.

RESEARCH

(Continued from page 6)

was vitamin A. Dr. Hale reviewed other work and told of Arizona studies, including an experiment with various levels of A to determine how high vitamin A can and should go. The work indicates that fattening steers may be supplemented with vitamin A up to 2.5 million I.U. per steer daily for periods of 140 days without harmful effects.

Dr. Hale said research indicates that with high energy rations, 40,000 units per day are needed to keep up liver storage, but this does not mean that this level is needed for optimum performance. Between 20 000 and 30,000 units will result in a good rate of gain.

DAIRY CATTLE NUTRITION — Subjects discussed by Dr. E. E. Bartley of Kansas State University included antibiotics for calves and bloat control.

Antibiotics for Calves: Dr. Bartley told of research indicating that the feeding of nutritional levels of certain antibiotics to young calves contributes to growth by reducing the resistance to phagocytosis of intestinal bacteria, thereby aiding the host defense mechanism. Such mode of action would result in reducing incidence of intestinal infections which may cause stress during early weeks of growth.

Some organisms have become drug resistant, it was indicated, but they are more susceptible to phagocytosis. This may explain why it has been possible to obtain a growth response to antibiotics where low level feeding has been practiced for several years and where some drug resistance likely has developed.

Bloat: Dr. Bartley told of studies showing an association between saliva and frothy bloat. Since saliva is a solution of mucin and various mineral salts, it was conjectured that mucin in saliva might be an active anti-foaming agent. Feeding of several animal mucin products to identical twin cows before pasturing delayed onset of bloat for two to four hours. While the products cannot presently be endorsed for field use, this area of discovery has prompted further Kansas work.

Dr. Bartley reported research showing that the rumen harbors bacteria capable of breaking down salivary mucin. Bloat resulted in the majority of cases when cultures of these bacteria were introduced into the rumina of cows grazing a non-bloat-provoking pasture.

Dr. Bartley postulated that mucin in normal salivary secretion, if sufficient in quantity, prevents bloat. But the bloat problem may be sparked when a ruminating animal experiences reduced salivation during consumption of bloat-provoking diets, or if mucin is destroyed by excessive "mucinolytic flora."

Dr. Bartley also referred to work with antibiotics to prevent bloat. Apparently, antibiotics may prevent bloat by preventing bacteria from breaking down antifoaming lipids.

VETERINARY MEDICAL RESEARCH—As part of a talk on several aspects of veterinary medical research, Dr. C. K. Whitehair of Michigan State referred to research and field reports on nitrate and vitamin A in cattle feeding. The exact role of nitrate in interfering with carotene and vitamin A metabolism is not established at this time.

It may be an indirect effect similar to the effect the highly chlorinated naphthalenes are known to have on carotene utilization, Dr. Whitehair said. "In our experience with field cases of this problem," he said, "while symptoms of vitamin A deficiency are evident and the cattle respond to vitamin A supplements, still they do not show typical uncomplicated vitamin A symptoms."

AVIAN DISEASE RESEARCH—The poultry industry continues to face many serious problems that challenge efforts of researchers in avian diseases, said Dr. B. S. Pomeroy of the University of Minnesota.

One of the problems brought out by Dr. Pomeroy is that there is evidence that feedstuffs are carriers of pathogens.

For one thing, he noted, numerous reports have been made regarding the isolation of salmonella species from feed ingredients. In a survey involving 666 feed samples from 22 states, 41 salmonella serotypes were isolated from 166 samples of feedstuffs of animal and plant origin from 16 states. The presence of salmonellas in animal and poultry feedstuffs, he said, presents a serious problem in the prevention and control of salmonella infections in chickens and turkeys.

Dr. Pomeroy went on to note that E. coli of the serological types associated with "air sac disease" have been isolated from feed ingredients and litter.

He quoted a report by Dr. W. B. Gross of Virginia, who isolated from feedstuffs pathogenic strains of E. coli that are involved in field cases of airsacculitis. This feed factor, Dr. Pomeroy said, may be one reason why there is a high incidence of airsacculitis in some cases but not in other instances under similar circumstances.

ANTIBIOTIC POTENTIATION — W. M. Reynolds, manager of the Pfizer agricultural research center, telling of developments in the firm's agricultural research, reported extensive data from work on methods of antibiotic potentiation, including research with swine as well as poultry. Procedures for improving effectiveness of tetracycline antibiotics have been shown to markedly improve prevention and treatment of chronic respiratory disease, synovitis, fowl cholera and more recently coccidiosis, he noted.

Methods of potentiation involve: (a) Temporary reduction of calcium, (b) terephthalic acid (TPA) supplementation, (c) "tying up" calcium, the antibiotic inhibitor, (d) use of calcium sulfate and (e) use of colloidal phosphate as a source of phosphorus. Greatest practical application for disease control to date, said Mr. Reynolds, involves reduced calcium levels for short periods, five to seven days, and use of calcium sulfate as a major source of calcium. Also, there are adaptations of potentiating methods that may have a place under certain conditions. These include antibiotic-fortified feeds with a "breakfast feeding" program, "top dressing" with antibiotic fortified feed and feeding fortified corn meal. Mr. Reynolds presented data on these adaptations and other methods.

New potentiation studies by Pfizer, it was indicated, include "hopeful findings in swine that revealed a two-fold increase in blood levels of Terramycin when calcium sources in the diet were reduced."

Mr. Reynolds outlined test results with hogs that show addition of TPA provided additional increases in serum antibiotic concentrations when added to high and low calcium rations.

Until recently, he said, little headway had been achieved in potentiation with swine.

In the recent studies, low calcium diets were fed for about one week, with no adverse effects on hogs' performance. Additional work, he continued, was directed at evaluating calcium sulfate and soft phosphate as possible potentiating agents for Terramycin. In this research, these agents had a significant effect on boosting blood serum levels of antibiotics, and test lots of hogs gained equally as well as controls.

Mr. Reynolds commented: "We feel this recent work may pave the way for a breakthrough to greater advances in hog production."

His report on work with poultry included information on coccidiosis and fowl cholera.

"It has been well documented," he said, "that antibiotics have a place in the continuous struggle to conquer coccidiosis. . . . With newer potentiating methods, we find that certain methods greatly help antibiotics at much lower levels (than previously) to combat coccidiosis."

Mr. Reynolds said potentiated Terramycin, when fed with low calcium diets, even for short periods, was proving "especially valuable" against the disease. Also, what he termed the combined low calcium and breakfast feeding method provided additional protection against coccidiosis. He said he believed this method practical.

"Potentiation methods are also proving valuable against fowl cholera," said Mr. Reynolds. "Research results to date have shown that when the potentiation treatment was administered at the time of infections, death was prevented and normal weight gains were permitted with Terramycin plus a low-calcium diet."

INTERNATIONAL RESEARCH—Dr. H. G. Luther of Pfizer outlined Pfizer research at overseas installations. This includes work on additional repository forms of medication for use in semi-nomadic types of agriculture, studies of mode of action of antibiotics and ways to potentiate the drugs, work on amino acids including plans to try the Jarowski principles (described in an accompanying story), and the nitrate and vitamin A problem.

DIAGNOSTIC LABORATORIES—H. O. Dermody of Pfizer, who opened the conference and also made closing remarks, noted the service of the firm's poultry diagnostic laboratory at Cullman, Ala., and pointed out that another lab will be opened June 15 at Forest, Miss. The possibility of additional labs also was mentioned.

ANTIBIOTIC

(Continued from page 6)

oleandomycin and 8 gm. of oxytetracycline per pound of Taomyxin. This supplement is incorporated in swine rations at a level of 1 lb. per ton of complete feed.

Pfizer investigators at the firm's agricultural research center, Terre Haute, Ind., said a summary of 24 trials, conducted as field studies with more than 2,000 pigs, showed several advantages for the new additive. They reported the following: "Taomyxin-fed swine produced pork at 42¢ less per 100 lb. than for other antibiotic or drug combinations. . . . Hogs yielded 1.52 lb. in average daily gain—0.1 lb. greater than control lots fed the same feed but including other antibiotics or their combinations. . . . During the starter period, gain from Taomyxin was 14.2% greater and feed conversion 8.4% improved, compared to other antibiotics. When raised to feeder age, hogs on the new supplement gave 17 lb. more daily gain per 100 pigs and did this on 28 fewer pounds of feed for each 100 lb. of feed consumed."

Explaining development of the new antibiotic combination, a Pfizer spokesman said the new supplement emerged from several years of study beginning with the discovery that oleandomycin could improve gains and feed efficiency in poultry and livestock. Further testing, he said, showed that "combining oleandomycin with oxytetracycline produced even greater, more efficient, gains, particular in hogs."

MACHINERY

(Continued from page 7)

made available to purchasing departments of feed manufacturing and flour milling firms through wide distribution by various national and regional associations.

The directory shows the types of machinery produced and distributed by members of the association under such headings as material reduction, mixing, blending, cleaning, grading, weighing, proportioning, pelleting, conveying, handling, mobile units, magnetic separation, storage, bulk trucks, packaging and other grain processing and handling equipment.

Subjects discussed at the annual meeting included arrangements for the dedication ceremonies of the new feed and flour milling school at Kansas State University, Manhattan, Kansas, May 18. At that time, the GPMMA $300 scholarship to an outstanding college student interested in the feed and milling industries will be awarded. The student selected for this year's scholarship award is Harold King, Olsburg, Kansas. The report on this award was made by George Thomas, Prater Pulverizer Co., Chicago.

A subject discussed at length, but left without action being taken, was an invitation to the GPMMA to become an associate member of the Processing Equipment Manufacturers Assn., a new group encompassing many general categories of processing machinery, with a central office in New York.

Mr. Myers recommended that the association endeavor to obtain more funds through expanded membership to use the new office of Mr. Wessman more fully, such as through more contacts with the U.S. Department of Agriculture and various state government departments and trade associations. One matter that would bear watching, he said, was a study being made by USDA on new methods of storing grain which might hit the manufacturers of conveyors, elevator legs and other present grain handling equipment.

In his inaugural address, Mr. Myers told the group, "The development of machines, tools and processes through the ingenuity of American industrialists has been mankind's greatest material boon. The increased production of wealth can be traced directly to them. The fact that Americans enjoy a living standard five times better today than a century ago can be traced to the increases of man-made production through such developments as 'automation'."

He continued, "When we realize that the GPMMA represents the firms that have in the past and will in the future be responsible for maintaining and exhilarating the technological progress of one of the 10 largest industries in the U.S.—the feed manufacturing industry—we begin to grasp the magnitude and importance of our association."

Mr. Myers pointed out the cooperation of GPMMA in developing poultry and livestock programs for efficient conversion of feed grains to produce more nutritious food for people in diet deficient areas of the world. He said, "The cooperative efforts of the entire membership can provide the wisdom and resources for the planning and execution of association projects that will strengthen and preserve each individual member, the feed manufacturing trade we serve, our agricultural economy, the nation and the world." He continued, "GPMMA has a vital part in the power to produce 'Food for Peace'."

MARKETS

(Continued from page 2)

far as feeding price ratios are concerned.

Generally speaking, mills are operating at full capacity but little or no overtime. Looking back at April, it appears to have been a better month than March while the prospect for May looks promising. From the standpoint of constituent feeds, high proteins have shown inclination to level off . . . this applies to both animal and vegetable, and this in turn has been reflected in putting the brakes on any further price hikes on the commercial mixed feeds.

South Central

Fair to good demand continued for formula feeds this week although some manufacturers complained that torrential rains over the week end had slowed down truck pickups. Generally five-day operations were maintained, however, and short overtime runs were not uncommon.

The best volume continued to be in hog and pig feed rations. Chick and turkey starter sales showed only a modest gain.

Truckers had to contend with hours of steady spring rains that caused flood waters to sweep over roads and creep across thousands of low-lying farm acres. Farmers are fretting over the condition of their fields which makes corn planting impossible. In flooded areas there is damage reported to crops.

Pacific Northwest

Cool, rainy weather the past week kept regional formula feed sales at a volume level. Trade sources indicated that although sales of beef and dairy cattle rations have been limited by improved pasture conditions, increased sales of egg, broiler and turkey mashes have kept the over-all volume at a seasonal peak.

Marketing of breeder turkeys is steadily increasing, but poultry processors report that more than 75% of the breeders are still on the farm and no 1961 crop young hen or tom turkeys has yet reached market from Oregon or Washington flocks.

Producer paying prices for most eggs held unchanged at Portland, but some dealers advanced the outside quote for AA large eggs by 1¢ doz. within a wide 32 to 37½¢ range at nearby country points.

Paying prices held unchanged for live frying chickens throughout Oregon's Willamette Valley at the seasonally low 15½ to 20½¢ lb. range.

Although Portland and Salem area dairymen are still complaining about last month's $1.12 cwt. producer milk price cut, quotations are unchanged and producer groups have been unable to rush a proposed milk marketing bill through the Oregon legislature that would set a floor on milk prices paid farmers.

Southern California

Although a slight rainfall was experienced two days this week near the Los Angeles area, local crop conditions are extremely bad due to lack of moisture and thus the local barley crop can be written off the books at this time. However, harvesting of the excellent barley crop in both the Imperial and San Joaquin Valleys continues.

Unfortunately medium and small egg prices declined about 2¢ per dozen, increasing the worries of poultrymen throughout the area. Several dealers are confident the federal government will attempt to control production or in some other way help the grower to survive if present price patterns continue. This concept of government intervention is not popular. With this in mind some dealers have expanded business to cover a few "risk" accounts.

Soybean meal decreased a few dollars per ton, which is helpful, but other proteins remain strong. Grain prices increased substantially with milo premiums advancing another 5-7½¢ per cwt.

Turkey growers now feel rather certain that the fall market price is going to be lower than production costs. Cattlemen believe this market has reached its low and look for a 50¢-$1 increase in the next few weeks. However, beyond that point they are not too encouraged.

The formula feed business continues very good volumewise as production levels remain constant.

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FURAZOLIDONE

(Continued from page 4)

to become effective.

They said that furazolidone may now be added to swine pre-starter, starter and grower feeds at any one of three options: (1) 200 gm. per ton of total ration for two weeks; (2) 150 gm. per ton for three weeks; (3) 100 gm. per ton for five weeks.

"This new use for furazolidone, coupled with our recent program of feeding the sow 150 gm. per ton of total ration one week before and two weeks after farrowing, offers the hog raiser a broadened scours control program," Dr. Harwood said.

He said the new use will aid significantly in reducing the economic loss from swine enteritis, estimated at millions of dollars annually.

The announcement cited the results of several university tests showing the value of furazolidone in preventing enteritis. Advantages in feed conversion and rate of gain also were noted. Kentucky, Minnesota, South Dakota, Iowa and other tests were described. Work with sows as well as growing pigs was reviewed.

More than 3½ years of laboratory and field research support the new use for furazolidone, Dr. Andrews said.

FDA in 1958 cleared a claim for use of the drug in growing swine for treatment of vibrionic dysentery and necrotic enteritis. In 1959, the program of feeding the drug to pregnant sows one week before and two weeks after farrowing to cut down on transmission of disease-causing organisms to baby pigs was cleared. Now, just recently, the additional claim for preventive use in growing swine has been cleared on the basis of data showing both efficacy and safety.

Program Outlined

The complete program which Hess & Clark will promote is: (1) Feed pregnant sows 150 gm. of furazolidone per ton of total ration, beginning one week before and continuing two weeks after farrowing. (2) Feed growing pigs a ration containing 100 gm. per ton, starting with first feed and continuing for five weeks. (The drug may also be fed at the 150-gm. level for three weeks, or the 200-gm. level for two weeks, if desired.)

Sow feeds medicated in this manner may be labeled: "For aid in the prevention of bacterial scours, reduction of early losses and maintenance of growth of baby pigs." Pig feeds may be labeled: "For aid in prevention of bacterial enteritis (necrotic enteritis, necro or black scours) and vibrionic (bloody) dysentery and for maintenance of weight gains and improvement of feed efficiency for baby pigs and growing swine."

Use in Broiler Feeds

The broadened use of furazolidone for reduction of condemnations in chickens was explained by Dr. Harwood.

The drug had already been cleared for prevention of CRD at 50 to 100 gm. per ton of total ration, fed continuously, prior to or throughout the danger period and during times of stress.

For reduction of condemnation due to CRD-air sac associated with vaccination stress, he said, 100 gm. of furazolidone per ton should be fed continuously, beginning at least one week before vaccination.

The announcement pointed out that condemnation losses are "all too familiar to broiler raisers throughout the country" and that chronic respiratory disease is the most frequent cause of condemnations.

"Research studies have demonstrated the value of feeding furazolidone (nf-180) at least a week before vaccination and throughout the danger period for reducing condemnations," Dr. Harwood stated.

The results of several broiler feeding trials involving use of furazolidone and other drugs in the ration were cited. For example, in one trial in which furazolidone was fed for the first three weeks and birds were vaccinated for Newcastle and infectious bronchitis at two weeks, the group receiving furazolidone had less than half as many condemnations, mortality was less than half as great as in the control group. Market weights and feed efficiency also were better for the treated birds.

"We have found CocciVac® the only effective way to control cocci."

Monroe C. Babcock

Babcock **Poultry Farm, Inc.**

PHONE: 4-6384 • P.O. BOX 286 • ITHACA, NEW YORK • CABLE "BABCOCK"

February 1, 1961

Dorn and Mitchell Laboratories, Inc.
Opelika, Alabama

Dear Sirs:

During the last five years coccidiosis has become a serious problem. In many flocks an outbreak of cocci triggers off other diseases. We have found CocciVac the only effective way to control cocci.

Evidently cocci is "fast on its feet" and has become much stronger since the industry started using coccidiostats. Also, different farms have different strains and types of cocci.

We started using CocciVac in August 1959 and have now grown over 300,000 started pullets on it. We plan to grow 300,000 on it this year. We grow beautiful pullets on CocciVac. They live on the customer's farm. They don't die with cocci during the growing period. They don't die with it in the laying house. Production has been very good. Losses from all types of leucosis in the growing period and the laying house with our started Babcock Bessies and Bonnies have been very low.

Here's our program: CocciVac in the water at four days. Trithiadol in the starting mash. Gas brooders. Keep litter damp enough to allow cocci to sporulate. In real dry houses the floors should be wet down enough to allow coccidiosis to sporulate. Our experience shows that some chicks will show "cocci signs" at three or four weeks of age but do not die. At eight weeks they are beautiful and they stay beautiful.

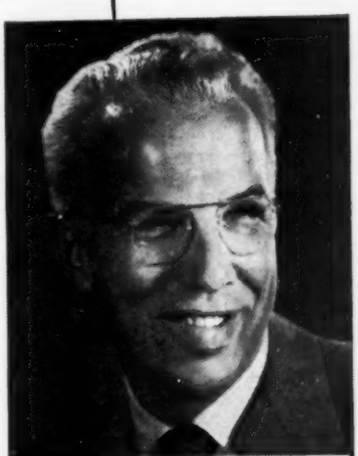
Sincerely yours,

MC Babcock

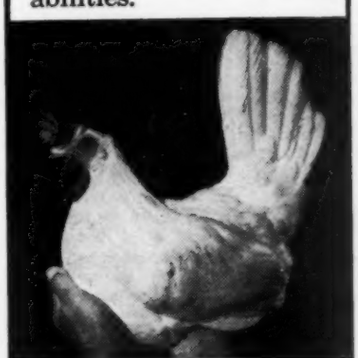
Monroe C. Babcock

MCB/b

BABCOCK Chicks Make Great Layers



Mr. Babcock is one of America's leading breeders. His Babcock Bessies and Bonnies have long been noted for their profit-making abilities.



CocciVac Type 4 is available for broilers. Types A and B for layers and roasters — and for broilers in heavy exposure areas.

Dorn and Mitchell
LABORATORIES, INC.
SUBSIDIARY OF STERLING DRUG INC.
Opelika, Alabama

CocciVac IS ALSO SOLD BY

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1450 Broadway, New York 18, N. Y.